OFFICIAL PUBLICATION OF THE MEDICAL SOCIETY OF VIRGINIA

VIRGINIA MEDICAL MONTHLY

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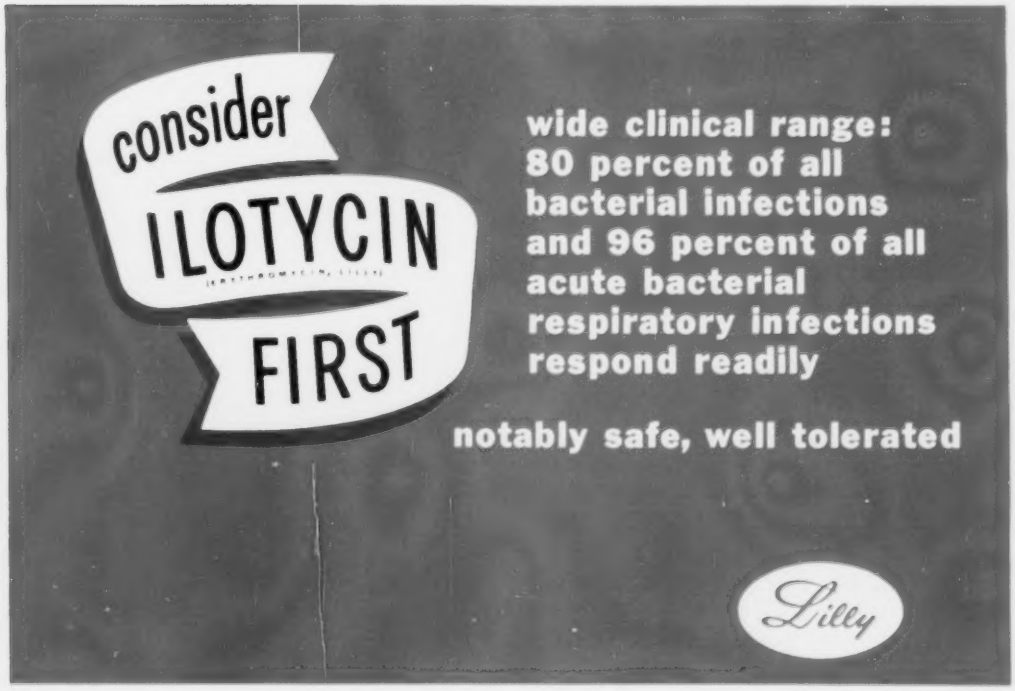

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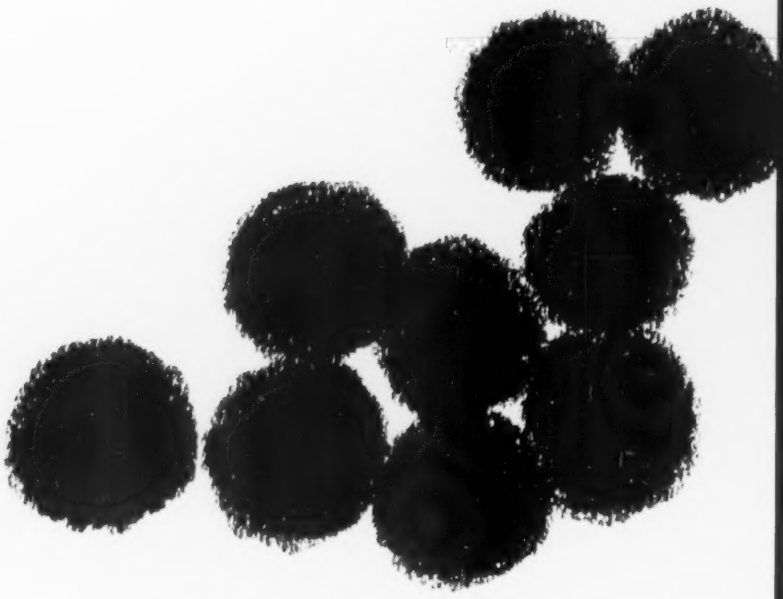

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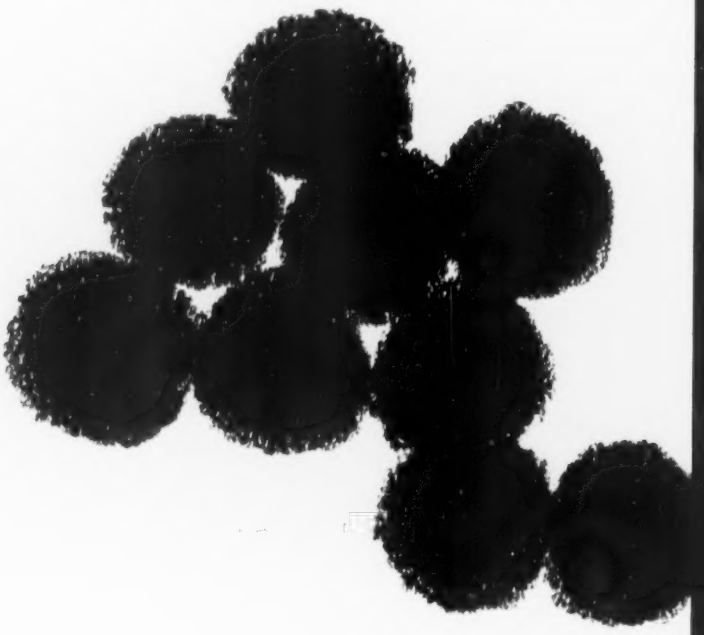

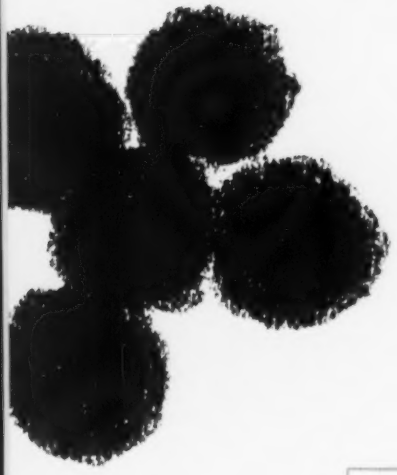

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*Pratt, R., & Dufrenoy, J.: Texas Rep. Biol. & Med. *12*:145, 1954.

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Acute
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1. Gazes, P. C., Goldberg, L. I., and Darby, T. D.: *Circulation*, 8: 883, Dec., 1953.

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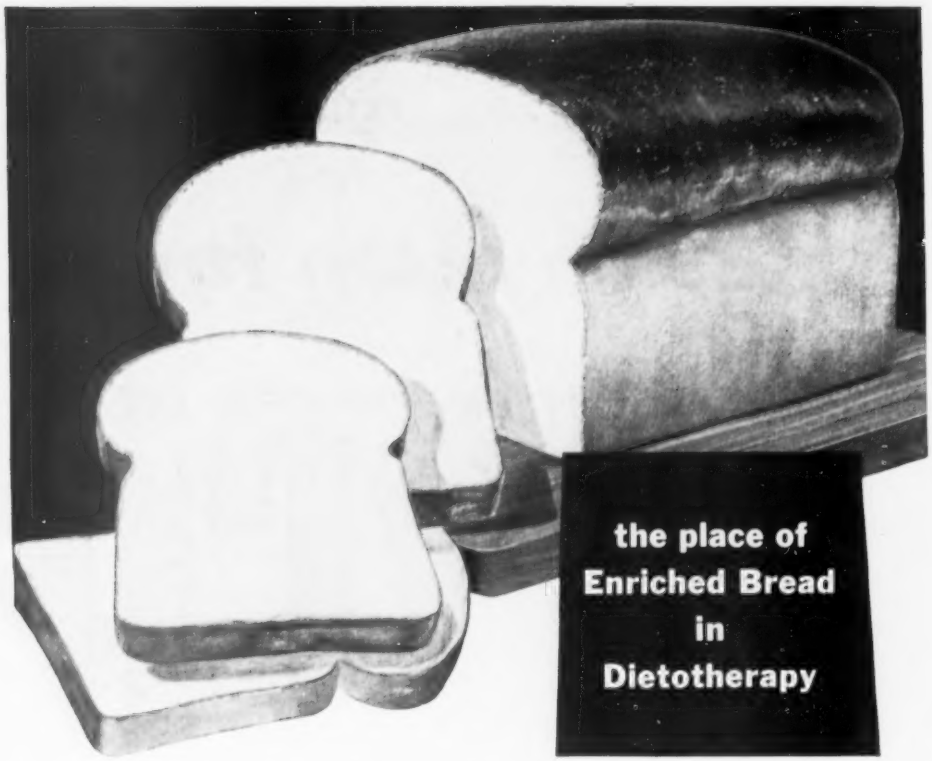

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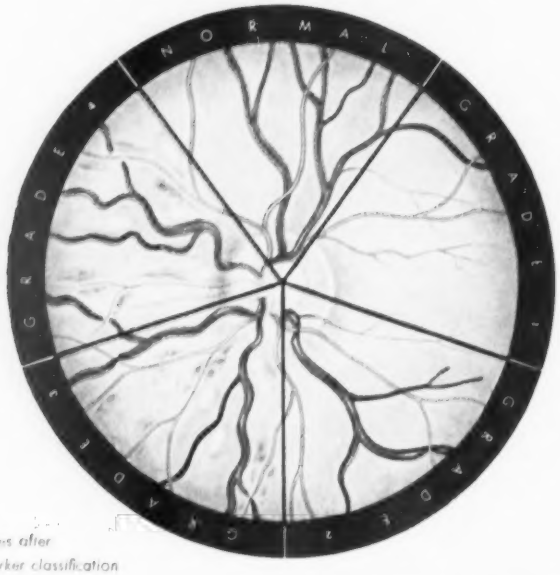

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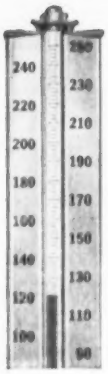

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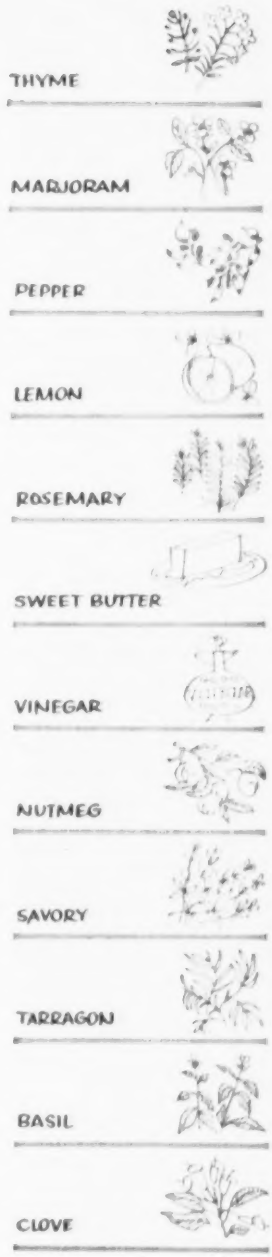

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*Bunim, J. J.: Research Activities in Rheumatic Diseases, Pub. Health Rep. 69:437, 1954.

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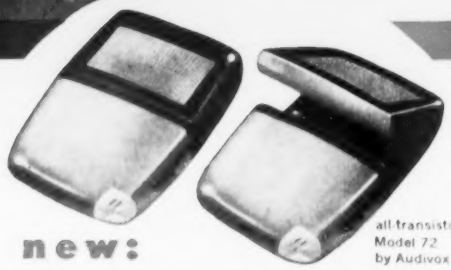

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REFERENCES: 1. Kroop, I. G., *N. Y. State J. Med.* **54**:2699, Oct. 1, 1954. 2. Heffer, E. T. *et al.*, *J. Pediatrics* **44**:630, June 1954. 3. Massell, B. F., *New England J. Med.* **251**:263, Aug. 12, 1954.

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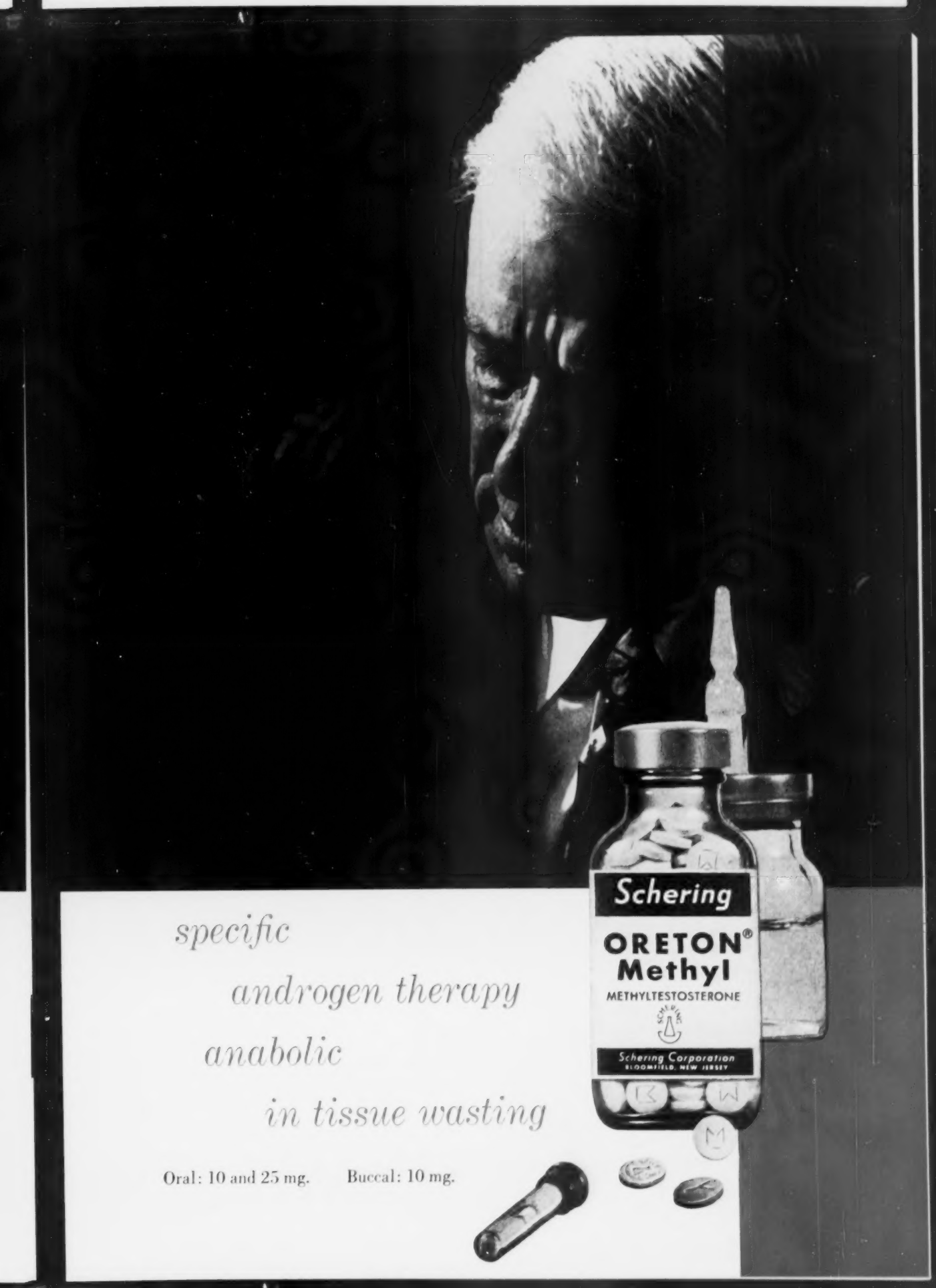
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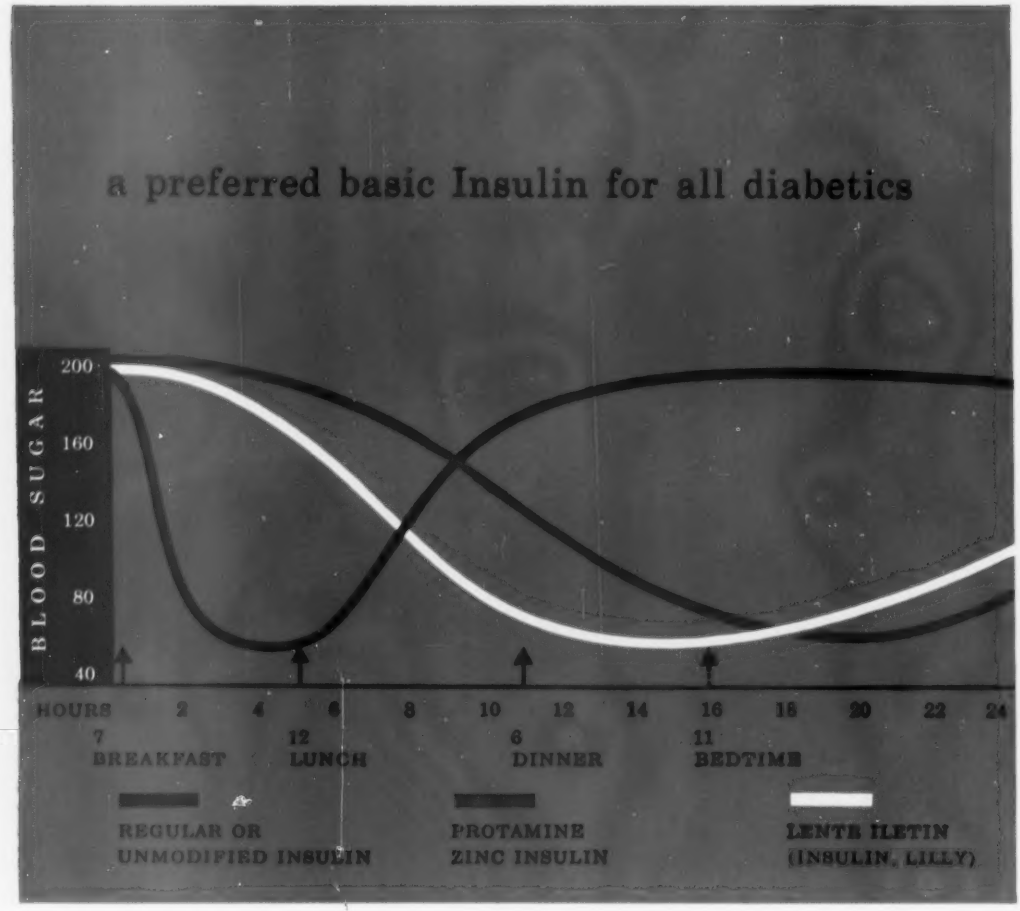

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The Physicians Responsibility in the Prevention of Automobile Accidents and Deaths

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THE rapidly increasing number of accidents and deaths occasioned by the automobile in 1947 induced me (F.D.W.) to study the types of injuries most frequently encountered and to ascertain, when possible, the factors which caused them. From November through May, 1948, a period of seven months, approximately 450 patients were treated at the University of Virginia Hospital, Charlottesville, Va., for injuries occasioned by the automobile. Approximately one-third, or 145 patients, were able to give the sources of their injuries.

In 80% of those receiving injuries to the head, the injuries were due to impact of the head against the windshield or dashboard, or both. In 80% of the injuries to the hip and leg, the causative factor was impact against the dashboard. In 66% of those receiving chest injuries, they were due to impact against the steering wheel. The great majority of injuries were received by guest passengers. Although the entire group of patients studied was small, it did give an index of the type of causes of such injuries, and subsequent more extensive studies in various places have proven that these percentages and reasons therefor are essentially correct.

After studying these statistics, it seemed obvious that redesign of the automobile could prevent many accidents. So, with temerity, I decided to criticize the automotive engineers for their lack of consideration of the users of their machines, as against the so-called eye appeal of color, chromium and gadgets. I also listed many suggestions which, if employed by the engineers, would minimize this carnage so evident to the doctor who is called upon day and night to treat these victims and to pronounce death on those who are beyond medical help.

This criticism was given as a chairman's address before the section of Laryngology, Otology and Rhinology of the American Medical Association in Chicago in 1948 and was published in the **Journal** of the American Medical Association in October of that year. It has been subsequently reprinted in several other publications in this country, Canada, England and New Zealand. The hundreds of letters I have since received convinced me that many people, especially physicians, shared my views.

Since that time, the annual deaths have increased approximately 1,000 each year and the injuries by 200,000 each year. If this rate is continued, it has been estimated that by the year 1975, twenty years from now, there will be some 70,000 deaths per year. Although the motor vehicle accident rate has been decreasing despite heavy increase in traffic volume, the carnage is shocking.

As a result of the study of this problem, it is obvious that the physician has three responsibilities. First: Since the highest death and accident rate is in the young adult age group, he should urge and work for the introduction of compulsory courses in safe driving in all schools, public, parochial and

Presented as the Equen Lecture before the Fulton County Medical Society in Atlanta, Georgia, November 11, 1954, by F.D.W.

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private, for it has already been shown that the accident rate of those who received such training was substantially lower than those without it.

The large insurance companies have also recognized the importance of such courses. A certificate certifying that one has satisfactorily completed such a course should be required before the first driving permit is issued.

Second: Since a study of the type of injuries encountered by him indicates that many of them could have been prevented by alterations in design of the automobile itself, he should endeavor to have established certain basic safety measures which should be incorporated in all cars and required of all manufacturers. Among these measures which should be required are:

(1) Control of speed by the development of a governor limiting the top speed to 55 miles per hour but in no way interfering with acceleration at lower speeds. The manufacturers oppose this because they stated that reserve speed is necessary in passing other cars. But if everyone knew his top speed was 55 miles per hour, he would be governed accordingly and I feel sure many serious accidents and deaths would be avoided.

(2) Since the majority of head injuries are due to impact against the windshield or dashboard, the windshield should be ejectable on impact, and the dashboard should be padded. Of course, all projecting knobs and buttons should be eliminated.

(3) The front bumpers should be mounted on "oleo shock absorbers" in a manner similar to the landing gear in airplanes. One would not expect them to absorb all the shock of a collision, but the absorption of even a small percentage would give added safety to the passengers.

(4) Since the majority of injuries suffered by the driver are chest injuries, a hydraulic steering column which will move forward under a force of approximately 100 foot pounds should be provided.

(5) The backs of both front and rear seats should be rigidly locked in position; then, if waist and shoulder belts are worn by all passengers, the car itself would act as protective armor in collision and they could withstand a crash of 40G or more as has been done in airplanes. The only alternative to the use of belts is to have all guest seats face the rear of the car.

(6) A flashing red light or auditory signal should be provided to indicate when a speed of 55 miles per hour has been reached, if a governor has not been installed.

(7) The use of a polarized windshield would minimize glare in daytime driving and when coupled with oppositely polarized lenses on headlights, would minimize night blinding. The present day tinted windshields are dangerous when driving at night and particularly so if dark glasses are worn at the same time.

The physicians third responsibility concerns purely medical aspects of the problem which the engineers have referred to as the "Beam in my own eye". The rising incidence of automotive injuries and deaths necessitates a review of diseases, physical conditions and drugs which should be considered by the physician and licensing bureaus before driving permits are issued or renewed. In view of this need, the following lists have been compiled for consideration and study. The final selection of these items should rest with the American Medical Association and other national special societies directly concerned and, when complete, should be furnished to the motor vehicle licensing bureaus and health departments for all states. This study by the American Medical Association is most urgent.

The following lists and discussion are offered with sincere apologies to the many fine drivers whose conditions are included but whose safety records are excellent. It is obvious that only a small per cent of accidents result from drugs, driver illness or physical disability. However, this fact in no way relieves the physician of the responsibility of doing all within his power to prevent them. For even 2 to 5% of 2,000,000 injuries is a sizable number.

The physician is directly responsible in the prescription of drugs which might precipitate an automobile accident. When necessary, the patient should be warned of likely and unlikely drug reactions which might hamper driving skill; and with some drugs the patient should be ordered not to drive until stability is reached. The physician is directly responsible in advising patients of the dangers of driving in the presence of certain symptoms prior to diagnosis, and then, later, should either warn his patient or forbid him to drive if his driving ability is likely to be hampered. Many of these diseases are borderline and have to be individualized, but in many others there is a definite contraindication to operating a motor vehicle. The physician may be required to report disabled drivers to a safety committee or clinic or licensing bureau for re-evaluation.

The automobile accident problem was studied last year by many groups, among which were the White House Conference and the Second Conference on

Health, Medical and drug factors in highway safety by the Committee on Highway Safety Research of the National Research Council of the National Academy of Sciences. This meeting was attended by representatives of 15 scientific and 8 traffic specialties and did much to advance the thinking on this problem.

Group I. Nervous System:

1. Narcolepsy
2. Petit mal
3. Grand mal
4. Subarachnoid hemorrhage
5. Cerebral vascular accident
6. Intracranial disease
7. Increased intracranial pressure
8. Mental deficiencies
9. Senility
10. Psychoses
11. Post lobotomy
12. Parkinsonism
13. Neuropathies
14. Neuromuscular disorders
15. Paraplegia
16. Hemiplegia

Discussion: Dr. Lawrence Selling, of Florida, who had many years of experience while in Detroit working in the psychopathic clinic of the Recorder's Court has written extensively on the factors represented in the above group, and concluded that physical, mental and eye disorders are most important and that in general, traffic law violators commit their offenses because of: (1) faulty driving habits, (2) ignorance of traffic laws, (3) poor physical condition, (4) inferior intelligence, (5) mental disease, (6) psychopathic personality, (7) bad driving attitudes and (8) alcoholism.

Since the major serious violators are egocentric, inadequate individuals of low intelligence, how much of a factor are these traits in the 46.5% deaths due to speeding and the 19% deaths from driving on the wrong side of the road? The flight reaction exhibited by the hit-run driver is an example of a psychopathic personality. Many abnormal people are driving and, since sufficient evidence has accumulated to decide who may and who may not drive, the time has now come for such decisions to be made.

If health departments would set up clinics to work with traffic courts, similar to the Psychopathic Clinic of the Recorder's Court of Detroit, it would eliminate many unfit drivers and prevent many secondary offences. This clinic should be staffed by physicians with broad and specialized training to handle all phases of determining a driver's fitness. Cases should be referred to this clinic by the courts or motor vehicle licensing bureaus. In addition to the cases referred by the court, it could also pass on the fitness of all commercial drivers and those over 65 years of age. It may eventually be possible for such a clinic to examine all prospective drivers before a permit is granted. This clinic would necessarily work in close cooperation with the family doctor.

Patients with neuromuscular diseases, paraplegia or hemiplegia may be permitted to drive after rehabilitation if a driving course has been completed satisfactorily and the clinic and family doctor have agreed. Specially designed automobiles may be necessary.

The law regarding the operation of automobiles by those suffering from narcolepsy, petit mal or grand mal varies widely in the various states. In some it is a reportable disease and a permit is not granted. In other states it has been found that the controlled epileptic makes a safe driver. It is obvious that epilepsy is a problem for the clinic and the family doctor to evaluate. Permission to drive may be given after examination, re-examination, and the response to anti-convulsive therapy has been determined.

Group II. Special Senses:

1. Meniere's syndrome and other vestibular disturbances
2. Deficient hearing
3. Visual and ocular muscular defects

Discussion: It is conceded that people subject to sudden explosive attacks of vertigo should not drive. Likewise, bilateral deafness below the 30 decibel level unless the defect is correctible by a hearing aid which must be worn. Visual and various other ocular disturbances below the commonly accepted standards may call for ophthalmological consultation in order to reach a decision.

Group III. Cardiovascular:

1. Essential hypertension, grade IV
2. Carotid sinus hypersensitivity
3. Visual and ocular muscular defects
4. Post-coronary thrombosis period
5. Aortic stenosis
6. Severe angina pectoris

Discussion: The first attack of heart disease which tends to death or unconsciousness is unpredictable, unfortunately. But if the physician explains the symptoms of impending danger to those who have survived the initial attack or those who present evidence of other cardiovascular disease, they will

be cooperative. They want to live, too. If they are alert to the effects of sedative drugs, nitroglycerine and the early symptoms of impending disaster, they will be able to drive off the road and turn off the ignition, as a rule.

Group IV. Miscellaneous:

1. Hyperinsulinism, exogenous and endogenous
2. Acute febrile illnesses
3. Postoperative periods
4. Narcotic addiction
5. Alcoholism.

Discussion: Diabetes occurs in from 0.5 to 1.1% of the population and those taking insulin create a particular problem of being vulnerable to insulin shock reactions. No commercial drivers taking insulin should be permitted to drive, but, if private drivers understood their difficulty and responsibility, they may be allowed to drive under the supervision and discretion of their private physician.

Alcoholism. The drinking driver was responsible for 18% of our fatal accidents last year and many thousands of injuries, for alcohol is not a stimulant but a depressant narcotic. Fortunately, certain amounts produce certain blood levels and the degree of intoxication can be determined by chemical means. Either blood or respired air determinations indicate the blood level: (1) From a trace to 0.05% alcohol in the blood is safe. (2) From 0.05% to 0.15% is questionable. (3) Above 0.15%, the driver is intoxicated. Accidents with blood levels of 0.10% to 0.15% are 2½ times as frequent as in normal individuals and accidents with blood levels above 0.15% are 10 times as frequent.

One bottle of beer	— 1 oz. whisky
2 oz. whisky	— 0.05% alcohol in blood
4 oz. whisky	— 0.10% alcohol in blood
6 oz. whisky	— 0.15% alcohol in blood
9 oz. whisky (½ pt.)	— 0.20% alcohol in blood

The 0.15% is the critical point and all drivers suspected of intoxication should have a breath test, for many other conditions simulate alcohol intoxication. It has been found that 9 out of 10 drivers submit voluntarily to the test and, of this group, 20% were acquitted. The test should be made mandatory by law and the blood level determination accepted as evidence of intoxication or not, for not only would the drunken driver be punished, but the danger of holding a driver with some serious medical disorder such as a cerebral vascular thrombosis or hemorrhage would be avoided.

Group V. Physical Conditions:

1. Amputations
2. Paralyses
3. Advancing age—All over 65 years of age should have annual re-evaluations
4. Arthritic deformities
5. Certain plaster cast applications.

Discussion: Patients with amputations and paralyses may be permitted to drive after rehabilitation or by utilizing specially designed automobiles if a driving course has been satisfactorily completed and the clinic and family doctor have agreed.

Group VI. Drug:

1. Alcohol
2. Carbon monoxide
3. Sedatives
4. Narcotics
5. Anticonvulsive drugs
6. Vasodilating drugs.

Discussion: Since the degree of carboxy hemoglobin is determined by the smoking of cigarettes, altitude and possibly defective exhaust systems, anoxia and drowsiness may be a factor in certain accidents especially when the driver is fatigued and negotiates a high mountain in a defective automobile.

The physician should explain to his patients the expected effect from all drugs prescribed and also the possible side reactions and unpredictable reactions which at times may render the patient incapable of safe driving.

Conclusions

(1) It is obvious that much research is necessary before many of the above problems can be solved.

(2) The American Medical Association should emulate the British Medical Association and set up a special committee to investigate medical standards for automobile and truck drivers. This committee should work in close association with other national special societies directly concerned. The results of this study should be published and printed in pamphlet form for distribution to all state automobile licensing bureaus and state health departments. Such a study by the A.M.A. is urgent.

(3) Since the physician is responsible for such important decisions, he should at least have an authorative source of information to guide him.

(4) Perhaps, after all, Will Rogers' solution was the simplest and best—to allow no car on our streets and highways until it had been paid for.

The Medical Management of Hyperthyroidism

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TWELVE years have elapsed since antithyroid drugs (thiouracil) and radioactive iodine were added to our armamentarium in the management of hyperthyroidism.[1,2] Despite the vast experience accumulated during this period of time, there is still no consensus regarding the treatment of choice for diffuse toxic goiter. The fact that surgery, radioactive iodine, and antithyroid medication each have strong advocates emphasizes the curability of this disease.

The purpose of this paper is to discuss the medical management of hyperthyroidism by means of the antithyroid drugs or radio-iodine. Iodine solution decreases the activity of the thyroid temporarily, and hence is antithyroid medication; however, the term is used here to apply only to the thiouracil derivatives and the imidazole compounds.

Antithyroid Drugs

Indications. While it is generally agreed that subtotal thyroidectomy represents the ultimate method of choice in controlling thyroid hyperactivity associated with toxic multinodular or uninodular goiter, and with substernal or intrathoracic goiter, one can define certain hyperthyroid conditions in which drug therapy is indicated. Hyperthyroid patients being prepared for surgery, children and adolescents with Graves' disease, pregnant women with hyperthyroidism, cardiac patients with associated thyrotoxicosis, and patients in whom the diagnosis is subject to question are good candidates for medical management with antithyroid preparations.

The goal of preoperative antithyroid therapy is complete control of the disease prior to surgery. Partial control, which could be achieved by the use of iodine alone, gives results which are satisfactory, but not comparable to those obtained with thiouracil derivatives and imidazole compounds. Surgery should not be attempted until all symptoms have disappeared and the patient shows a gain in weight, a pulse rate below 90 per minute, and a basal metabolic rate of plus 15 or below. The exceptions to this rule are in the extremely small group of individuals whose BMR remains unchanged despite a loss of all manifestations of toxicity.

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In the very young person with thyrotoxicosis, the prolonged use of antithyroid medication offers approximately a 50 per cent chance of complete recovery and is associated with few complications. Many clinics feel that surgery during childhood and adolescence should be reserved for those patients who have failed to remain in remission after two adequate courses of antithyroid medication. Because of the threat of carcinogenesis, radio-iodine is seldom recommended for these young patients.

Antithyroid medication is the treatment of choice for hyperthyroidism occurring during pregnancy. Surgery should be avoided after the second trimester, and radio-iodine should never be employed later than the tenth week, since the fetal thyroid begins to function shortly thereafter and is capable of concentrating the radio-active material. The metabolism should not be reduced below that which is usual during pregnancy—a value generally considered to be 25 per cent above the normal range. In addition, the transmission of antithyroid compounds in therapeutically active amounts in the mother's milk contraindicates breast feeding following delivery.

It would seem that thyrotoxic patients with congestive heart failure should prove ideal candidates for radio-active iodine. However, because of the prolonged delay before the effect of treatment with radio-iodine becomes manifest, and the exacerbation of the disease in the period immediately following therapy, we feel that antithyroid preparations are the treatment of choice in this condition. The response to treatment begins almost immediately, and this method of therapy is not associated with the dangers inherent in surgery or with the risk of causing irreversible cardiac damage by a delay in therapeutic response. After the thyrotoxicosis and heart failure have been controlled, either surgery or radio-active iodine may be employed if prolonged medical management is unacceptable.

Infrequently the physician is confronted with borderline cases in which a definite diagnosis of hyperthyroidism cannot be made clinically. Such cases, of course, are much less frequent now that we have available objective tests such as determinations of the serum protein-bound iodine and of the glands uptake of radio-active iodine. If these tests are not available, however, one is occasionally unable to

distinguish organic heart disease from hyperthyroidism with associated cardiac symptoms. In other instances, anxiety and hypertension provide a difficult problem in differential diagnosis. Under conditions such as these, the use of antithyroid drugs serves as an excellent therapeutic test, and suppresses thyroid activity without destroying the gland, until a definite decision can be reached.

Available Compounds. Both the thiouracil derivative and the imidazole compounds work by suppressing the oxidative enzyme systems through which inorganic iodide is bound to protein to form thyroid hormone. There is no concomitant depression of thyrotropin; hence, hyperplasia of the gland continues. Prior to surgery, the additional use of iodine in the form of Lugol's solution is necessary to suppress and inactivate thyrotropin so that the gland will have a more normal histologic appearance and bleeding during the operation will be diminished.

Many compounds have been tried, and at the present time our clinic favors the use of 1-Methyl-2-mercaptoimidazole (Tapazole) and 6-N-Propyl-2-thiouracil (Propylthiouracil).

Thiouracil was the first antithyroid compound introduced, and it is credited with being the most dependable in that there is less fluctuation of the disease to an established maintenance dose. Because of toxic manifestations, which occur in 10 to 15 per cent of the patients receiving this drug, its use has been virtually abandoned. 5-Iodo-2-thiouracil (Itrumil) has some advocates and its dependability in maintaining an unvarying response on a given dosage is greater than that of Tapazole and about the same as that of Propylthiouracil. Toxic manifestations have been encountered in only about 3 to 5 per cent of the patients receiving Itrumil; however, in a small group of hyperthyroid patients, rather large doses of the medication have failed to control symptoms. For this reason the drug has lost favor.

Tapazole is the most potent of the antithyroid drugs on a weight basis, and is the most rapidly acting of the compounds. Many patients experience relief of symptoms and an improved sense of well being within 48 to 72 hours after the beginning of the treatment. Toxic reactions have been minor and the incidence of such manifestations is estimated to be about 2 per cent as compared to approximately 4 per cent with Propylthiouracil. A slight disadvantage associated with the use of Tapazole has been the difficulty of maintaining a stable metabolic rate on a set dosage.

The toxic manifestations most frequently encountered with the antithyroid drugs have been drug rash, urticaria, fever, and agranulocytosis. Hepatitis has been reported following the use of imidazole compounds[3]. The most feared complication is the development of agranulocytosis. Routine leukocyte counts, once the initial period of therapy has passed, have proved unsatisfactory for the early detection of toxic reactions to the drug, since the development of agranulocytosis is rapid. Our policy has been to request a white cell count and differential smear on any patients receiving these drugs who complain of a sore throat, fever, or rash.

Antithyroid compounds should be discontinued if the white cell count falls below 3000 cells per cubic millimeter or if the percentage of polymorphonuclear cells is less than 30. If agranulocytosis does develop, we do not favor the substitution of another antithyroid drug but prefer to treat the agranulocytosis by the use of antibiotics and bed rest, and to use radioactive iodine for control of the thyrotoxicosis. It is conceivable that the irradiation effect might depress the bone marrow, but this has not happened in our experience.

A problem commonly encountered with the use of antithyroid drugs has been the failure to achieve complete control of the disease because of inadequate therapy. The initial dose of Tapazole should be 30 milligrams daily, and if no improvement is observed within ten days, the dosage should be increased. If Propylthiouracil is used, a daily dose of 300 milligrams should be given initially, and increased after the same period of time if no response is noted. The dosage required to effect a response is continued until a euthyroid condition has been established, and is then reduced slightly at monthly intervals as long as there is no return of toxic manifestations. Therapy should be continued for six to eighteen months.

The general experience has been that 25 to 50 per cent of the patients treated with antithyroid drugs will have a relapse within a short period of time after the medication has been withdrawn. Of those remaining in remission, approximately 25 per cent may be expected to have a return of symptoms within three to forty-eight months[4]. Repeated courses of therapy yield lower remission rates, but increases the total number of cases successfully managed by medical means.

Radio-Active Iodine

Radio-active iodine was first produced in 1934, and was used in the treatment of hyperthyroidism approximately ten years later[5,2]. The structure of radio-active substances is such that the nuclei of the

atoms, in contrast to those of naturally occurring elements, are unstable. As the atoms undergo decay and transmutation, the nuclei emit radiation of the type which have long been recognized to arise from radium and its degradation products. The isotope of iodine emits both beta and gamma rays. The beta emissions are entirely absorbed within a distance of 2 millimeters in tissue; and since the thyroid has a specific avidity for iodine, the high concentration of the isotope within the gland produces an intense local radiation effect. The gamma irradiation penetrates farther through tissue and much escapes the body, so that little biologic effect is produced.

Irradiation of the thyroid for therapeutic purposes is not new, and was introduced as early as 1900. In 1952, a survey of 10,000 cases of thyrotoxicosis treated with roentgen irradiation indicated that about 65 per cent were cured, 20 per cent had improved, and 15 per cent were treatment failures[6]. Although roentgen and radio-active iodine therapy work in the same manner by destroying hyperplastic tissue through beta irradiation, the latter is a far more satisfactory method of radiation.

The I_{131} is rapidly collected within the gland, and more specifically within the lumen of the follicles. This intense concentration of beta irradiation is sufficient to destroy hyperplastic thyroid tissue, but does not travel far enough to injure other structures of the neck, as do roentgen rays. In view of the superiority of radio-active iodine over roentgen therapy, which itself had fair success, it is not surprising that radio-iodine has become well established as an effective means of treating toxic diffuse goiter. Reports from various clinics, including ours, indicate a remission rate of approximately 90 per cent and there has been no instance of recurrent thyrotoxicosis in any patient in whom a euthyroid state has been produced[7].

Like antithyroid drugs and surgery, radio-active iodine is considered the treatment of choice for diffuse toxic goiter in many clinics. The possibility of genetic injury and carcinogenic effect, while purely hypothetical, has been sufficient to cause many physicians to limit its use to patients over the age of 40.

Treatment is simple and does not require hospitalization, except to carry out preliminary diagnostic studies. The radio-active iodine, tasteless when diluted in water, is given to the patient to drink. Observation for 24 to 48 hours is usually advisable because of the accentuation of thyrotoxicosis sometimes associated with intense destruction of the gland. Subjective improvement is often noted within two weeks, and within one month objective evidence of improvement may be apparent. Within two months, in the majority of cases, the pulse rate, the basal metabolic rate, and the weight curve indicate that the patient is in remission. In most instances the gland will have become quite small or disappeared entirely. If a remission does not occur within two months, consideration may be given to a repetition of the therapeutic dose of iodine-131.

The major complication to date has been the development of myxedema in about 10 per cent of the cases reported. One patient treated by us went from a state of severe hyperthyroidism to full blown myxedema within three months. No cases of radiation sickness, bone marrow depression, parathyroid damage, or renal injury have been reported. Sterility has not been observed. As were previously noted, this method of therapy should not be used in pregnant patients, since the fetal thyroid will pick up the radio-active material. There have been a few cases reported, however, in which pregnant patients were so treated unintentionally without damage to the fetus[8].

Summary

The use of antithyroid compounds and radio-active iodine in the treatment of diffuse toxic goiter has been discussed. One may select surgery, radio-iodine, or antithyroid medication for the treatment of such cases, and anticipate excellent results. No consensus exists as to the treatment of choice, and each case should be individualized to achieve the aim of producing a euthyroid state.

Bibliography

1. Hamilton, J. G., and Lawrence, J. H.: Recent Clinical Developments in the Therapeutic Application of Radio-Phosphorus and Radio-Iodine. J. Clin. Invest., 21:624, 1942.
2. Astwood, E. B.: Treatment of Hyperthyroidism with Thiourea and Thiouracil. J.A.M.A., 122:78, 1943.
3. Rosenbaum, H., and Reveno, W. S.: Agranulocytosis and Toxic Hepatitis from Methimazole. J.A.M.A., 152:27, 1953.
4. Soloman, D. H.; Beck, J. C.; Vanderloan, W. P., and Astwood, E. B.: Prognosis of Hyperthyroidism Treated by Antithyroid Drugs. J.A.M.A., 152:201-205, 1953.
5. Fermi, E.: Radio-Activity Induced by Neutron Bombardment. Nature, 133:757, 1943.
6. Menville, L. J.: Radiologic Aspect of Thyrotoxicosis. Radiology, 18:568-575, 1932.
7. Yount, E. H.; Andrews, J. R., and Jester, A. W.: The Use of Radio-Active Iodine in the Diagnosis and Treatment of Thyroid Disease. N. C. Med. J., 13:466-470, 1952.
8. Werner, S. C.; Quimby, E. H., and Schmidt, C.: Clinical Use of Radio-Active Iodine. Bull. New York Acad. Med., 24:549-560, 1948.

Phenylbutazone (Butazolidin) in the Treatment of Various Rheumatic Disorders

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PHENYLBUTAZONE (Butazolidin®) was introduced into this country a few years ago for treatment of various types of rheumatic disorders. The drug was first used and evaluated in Switzerland and Germany. The review of the European literature by Kuzell and associates[1] revealed promising results. Since then, many reports[2,3,4,5,6] have appeared on its use in this country, most of them favorable. The drug has now been accepted by the Council on Pharmacy and Chemistry of the American Medical Association.[7] The observations reported herein confirm the experiences of others with phenylbutazone and should encourage its judicious use as an adjunct to the treatment of certain rheumatic disorders.

Methods

Selection of Patients. Forty-nine patients were treated with phenylbutazone during a sixteen-month period. Thirty-two had rheumatoid arthritis, one had rheumatoid spondylitis, nine had mixed rheumatoid and osteoarthritis, and seven had miscellaneous forms of rheumatism. All of the patients had had unsatisfactory responses to one or more of the following types of therapy: Analgesics, physical therapy, rest, fever therapy, vaccines, gold, cortisone, ACTH and X-ray. They were given phenylbutazone because previous treatment had been grossly unsatisfactory. Phenylbutazone was used in conjunction with other simple measures which seemed proper for each individual patient.

Phenylbutazone was not used if the patient could, by simpler regimes, maintain normal blood counts, temperature, erythrocyte sedimentation rates, sleep, appetite, weight, range of motion of all joints, and meet his economic, social and domestic demands.

Detailed medical history and physical examination, hemoglobin, hematocrit, red and white blood cell and platelet counts and routine urine examinations were obtained on all patients prior to the administration of phenylbutazone. All patients were required to obtain white blood counts, hemoglobin and hematocrit determinations weekly for the first six weeks. When no significant signs of toxicity developed in six weeks, the blood examinations were done every two weeks. They were given emphatic instructions to notify their physicians at the first sign of any untoward reaction such as fever, rash, sore throat, nausea, bleeding, diarrhea, or edema. Patients and physicians were urged to stop the drug whenever symptoms, signs, or changes in the blood suggested toxic reactions. All patients were seen within one to three weeks after starting the drug and at varying intervals thereafter.

Age and Duration of Symptoms. The ages of the patients varied from 20 to 78; the average was about 50. There were 28 females and 21 males. The duration of symptoms in the rheumatoid and mixed arthritis groups varied from 2 months to 20 years, the average being 7.6 years (see Tables I and II). The diagnoses and duration of symptoms in the miscellaneous group are shown in Table III.

Dosage. Phenylbutazone was given orally in tablet form. The patients were begun on 200 mg. three times a day with meals. A bedtime dose to be taken with food was added if no subjective improvement on the initial dose was noted in three or four days. When improvement was noted, the dose was reduced gradually to the level which sustained optimum relief. The average minimal maintenance dose varied between 200 mg. and 100 mg. daily. No patient received early doses of more than 800 mg. daily. None required over 300 mg. daily to maintain their maximum relief. Several patients took the drug intermittently with return of symptoms in a few days after the drug was stopped, but obtained relief on re-administration.

Results

Rheumatoid Arthritis—(See Table I). The thirty-two patients with rheumatoid arthritis were not classified into the stages defined by the Arthritis and Rheumatism Foundation in its Manual for Arthritis

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Clinics.[8] They were, however, classified on the basis of functional improvement, both before and after treatment, by the criteria set forth in that Manual. Subjective improvement for all patients was graded according to an arbitrary classification; 4+ represented complete relief of symptoms, 3+ marked relief, 2+ moderate relief, 1+ slight relief, and 0-no relief.

Subjectively, sixteen (50%) of the thirty-two patients with peripheral rheumatoid arthritis experienced grade 3+ improvement; fifteen patients (47%) had grade 1-2+ improvement, and one patient (3%) experienced no improvement (Table I).

Objectively, ten (31%) of these thirty-two patients showed improvement in their functional classification of one or more grades (Table I). Six of these had had symptoms for four or more years.

The one patient with *rheumatoid spondylitis* show-

TABLE I

RHEUMATOID ARTHRITIS

Case	Age	Approx. Duration Years	Followed on Phenylbutazone Months	Function (Class) Pre-Rx	Post-Rx	Subjective Response*	Complications**
1	27 w/f	9	11	II	II	2+	Indigestion, rash, anemia
2	63 w/f	2 mo.	9	II	I	4+	O
3	67 w/f	16	4	IV	III	1+	O
4	57 w/m	9	5	II	II	1+	Anemia, purpura—DC
5	59 w/f	20	3	II	II	3+	O
6	46 w/f	11	6	II	II	3+	O
7	45 w/f	4	8	II	I	4+	O
8	52 w/m	10	3	II	II	2+	Hematuria—DC (History of renal colic)
9	53 w/m	4	12	II	I	3+	O
10	59 w/f	19	4	II	II	2+	Anemia—DC
11	54 w/m	7	1	III	III	0	Refused to follow directions—DC
12	52 c/f	1.5	1	III	II	3+	O
13	40 c/f	15	16	II	I	3+	Nausea initially
14	52 w/f	1.5	7	III	II	3+	Mild anemia
15	54 w/f	15	1	I	I	3+	Mild anemia
16	46 w/m	4	2	II	II	1+	Nausea
17	43 w/m	2	2	II	II	2+	O
18	41 c/f	5	4	III	III	2+	O
19	20 w/f	4	6	II	II	3+	Hematuria—DC
20	41 w/m	11	13	IV	II	3+	O
21	52 w/f	13	1	II	II	3+	Nausea, vomiting, rash—DC
22	39 w/f	12	14	II	II	3+	Stomatitis, diarrhea
23	44 w/m	6	7	II	II	2+	Congestive failure after myocardial infarction—DC
24	51 w/m	5	13	II	II	3+	Mild edema
25	57 w/m	9	1	II	II	1+	O
26	31 w/f	3	3	II	II	2+	O
27	48 c/m	4	3	II	II	1+	O
28	55 w/f	1	10 da.	II	II	2+	Nausea—DC
29	30 w/f	12	6	IV	III	2+	O
30	37 w/f	4 mo.	7	II	II	3+	O
31	30 w/f	1	3	II	I	3+	Nausea initially
32	29 w/m	1	6	II	II	2+	Mild anemia
			RHEUMATOID SPONDYLITIS				
1	29 w/m	6	15	III(?)	II	3+	O

* 4+—complete relief; 3+—marked relief; 2+—moderate relief; 1+—slight relief; O—no relief.
** DC—Drug discontinued.

ed marked improvement on phenylbutazone, although the disease had been present for six years. He seemed to be getting worse in spite of X-ray, physiotherapy, and cortisone. He improved a few days after starting phenylbutazone and has continued to show progressive improvement on a maintenance dose of 200 mg. daily.

Mixed Rheumatoid and Osteoarthritis—(See Table II). Four (44.5%) of the nine patients in this group experienced 3-4+, while five (55.5%) obtained 1-2+ subjective improvement. None obtained complete relief, but all experienced worthwhile improvement.

Miscellaneous Conditions—Table III gives the pertinent data in this group. The list is too small to illustrate adequately the reported usefulness of phenylbutazone in the broader categories of rheumatic disorders. Note that a case of gout was not available for inclusion in Table III. The one patient with bursitis obtained complete relief promptly after beginning phenylbutazone, although X-ray therapy, aspiration and procaine instillation had not been helpful. Five of the other six patients in the group obtained 2-3+ subjective improvement.

Toxicity—All investigators have reported some untoward effects from phenylbutazone. These experiences are similar. The drug was stopped in ten patients in this study because of untoward reactions, which then subsided promptly. In twelve others the reactions did not necessitate stopping it.

Toxic reactions for which the drug was stopped were: hematuria in two; moderate anemia in one; marked anemia and purpura in one; nausea, vomiting, and a macular rash in one; nausea alone in two, macular rash alone in one. One patient developed acute myocardial infarction followed by peripheral edema, so the drug was discontinued. One patient (Case 2, Table III) who had pylorospasm, by history and by X-ray before beginning phenylbutazone, developed a macular rash after taking it for a week, but the drug was continued and the rash disappeared. However, after two months on the drug an active duodenal ulcer was demonstrated by history and X-ray. The drug was discontinued, and the patient placed on an ulcer regimen. Epigastric symptoms disappeared promptly and another X-ray examination one month later revealed no ulcer, pylorospasm or duodenal deformity. Meanwhile, pain in the hip and shoulder girdle recurred.

Mild reactions which did not necessitate stopping phenylbutazone. Mild nausea in four and slight anemia in six patients did not persist even though the drug was continued. Mild edema in one patient was controlled by reducing the sodium intake. One patient who had had aphthous stomatitis intermittently for fifteen years had severe exacerbations whenever she took phenylbutazone for as long as a week. By taking the drug intermittently for 2-4 days this complication was partially controlled. Significant leukopenia was not observed. Although some type of reaction was noted in twenty-two patients (45%), in only ten (20%) was it considered necessary to discontinue the drug.

TABLE II

MIXED—RHEUMATOID AND OSTEOARTHRITIS

Case	Age	Approx. Duration Years	Followed on Phenylbutazone Months	Response to Therapy*	Complications**
1	57 w/f	10	2	2+	Nausea—DC
2	70 c/m	5	12	3+	Mild anemia
3	65 w/f	5	10	3+	Mild anemia
4	78 w/m	20	14	3+	Indigestion—History of ulcer
5	57 c/f	11	2	2+	O
6	76 c/f	2	7 da.	1+	No follow-up
7	69 w/f	12	14 da.	3+	Rash—DC
8	69 w/m	12	6	2+	O
9	50 w/m	7	3	2+	O

* ** See foot-notes, Table I.

DISCUSSION

Phenylbutazone is not curative, but many patients with long-standing rheumatism obtain worthwhile and often dramatic relief from it when other measures have failed. Arthritis recurs when the drug is stopped, if the disease is still active. Failure to recur promptly seems to imply a remission, which cannot be attributed, yet, to phenylbutazone. It is

interesting that the disease does not seem to become refractory to phenylbutazone once it has been effective and repeated courses seem to be as effective as the first one.[5]

The improvement, the incidence and types of toxic reactions to phenylbutazone noted here are similar to those reported previously.[1,2,3,4,5,6] No lasting or alarming toxic effects were noted, even in nine patients who took the drug for twelve months or longer.

Phenylbutazone was substituted partially or completely for cortisone in several patients who had previously been relieved by nothing else. Several patients thought phenylbutazone provided more subjective relief than cortisone.

There is a striking parallelism in the sequence of relief afforded by cortisone and phenylbutazone, although there are few comparable physiological effects. Rest pain is usually improved in two to four days, passive motion in three to six days, active motion in five to ten days, comfortable weight-bearing and increased range of locomotion in seven to fourteen days. Reduction in swelling usually lags for fourteen or, at times, many more days. Similar comparisons of corticotropin and phenylbutazone have been reported.[10] Animal experiments have attributed analgesic, anti-inflammatory, antihistaminic, antipyretic, uricosuric and other properties to phenylbutazone.[5,11] These effects do not seem to explain its striking anti-arthritic properties entirely. More knowledge of the pharmacology of phenylbutazone is needed.

Cortisone and phenylbutazone tend to cause retention of sodium and activation of peptic ulcers. Phenylbutazone does not have the cortisone disadvantages of promoting the reactivation of tuberculosis, osteoporosis, potassium deficiency, reduced carbohydrate tolerance, negative nitrogen balance, acne, hirsutism, abnormal fat distribution, hypertension, and thrombosis.

Phenylbutazone has been reported to be of definite value in the treatment of the following: rheumatoid arthritis, osteoarthritis, rheumatoid spondylitis, acute gouty arthritis. Its use has been favorably reported, although its value cannot be regarded as established in the treatment of the following: psoriatic arthritis, mixed arthritis, osteo-arthritis of the spine, acute peritendinitis, acute myofibrositis, herniated nucleus pulposus, degenerative disease of the hip, capsulitis, bursitis, epicondylitis, fibrositis, calcific tendinitis, reflex dystrophy, post-menopausal arthralgia, scleroderma with arthropathy, and lumbosacral sprain.[5]

The following toxic reactions to phenylbutazone have been reported elsewhere:[5] rash, edema, G-I upsets, stomatitis, reactivation of peptic ulcer, G-I hemorrhage, anemia, leukopenia, thrombocytopenia, agranulocytosis, purpura, hematuria, euphoria, vertigo, nervousness, insomnia, blurred vision, salivary gland swelling, hemoptysis, and drug fever (with or without rash).

The most commonly reported reactions have been gastro-intestinal upsets, edema and drug rash. The incidence of gastro-intestinal upsets can be markedly

TABLE III
MISCELLANEOUS

Case	Age	Diagnosis	Approx. Duration Years	Followed on Phenylbutazone Months	Response to Therapy*	Complications**
1	47 w/f	Unclassified Spondylitis	15	12	2+	O
2	58 w/f	Osteoarthritis, Fibrositis	1.5	2	2+	Rash, duodenal ulcer—DC
3	58 w/f	Fibrositis	4 mo.	8	3+	O
4	42 w/m	Traumatic Osteoarthritis	4	2	0	O
5	41 w/f	Traumatic Osteoarthritis	12	14 da.	3+	O
6	56 w/m	Osteoarthritis	1	3	2+	O
7	56 w/m	Bursitis	2 da.	8	4+	O

* ** See foot-notes, Table I.

decreased if the drug is taken with food. The edema has been shown to result from a temporary decrease in urine volume coupled with significant retention of Na+ and Cl- ions.[12,13] It can be controlled, usually, by moderate restriction of sodium intake. Severe restriction of sodium intake plus diuretics may be necessary. In most cases the drug rash needs no treatment. In others it can be controlled by antihistamines or by small doses of cortisone for a few days. If the rash requires treatment, it is advisable to stop the drug until it clears. Phenylbutazone has been resumed successfully with lower doses elsewhere. Every precaution should be taken, if the drug is resumed, to stop it promptly at the first sign of another rash.

The reduced hemoglobin, hematocrit and red blood cell counts do not represent true anemia in most instances, but are due to hemodilution.[5,9] Hemoglobin of 10.5 to 11.0 gm., red blood cell counts of 3,500,000-3,800,0000, and hematocrit readings of 35-38 are not unusual during the first few weeks of treatment. Hence, it is not necessary to stop the drug unless the anemia is progressive or severe.

Other *reactions which usually subside even though the drug is continued* are: vertigo, nervousness, slight leukopenia, euphoria and insomnia.

Agranulocytosis from butazolidin has been reported in fifteen patients in the American literature.[14-25] Three of them died.[18,20,25] A duodenal ulcer perforated in one of them.[25] The appearance of agranulocytosis or significant leukopenia are definite indications to stop the drug, although it has been reported[14] that three such patients resumed therapy without recurrence. One fatality from thrombocytopenic purpura,[26] two cases of severe exfoliative dermatitis,[27,28] one of whom died,[28] and one death from erythema multiforme bullosum[29] have been reported. These mortality figures compare favorably with the two deaths and about twenty violent alarming anaphylactic reactions from aspirin, and the eleven deaths from cardiovascular accidents in one hundred and seventy-five cases while taking cortisone, which have been observed in this clinic. It is proper to point out that all of the deaths in the cortisone series were in the decades of high incidence of cardiovascular accidents.

Other *reactions which demand prompt cessation of the drug* are: reactivation of peptic ulcer, G-I hemorrhage, hematuria, thrombocytopenia, severe stomatitis, and generalized allergic reactions.

The mechanisms by which these varied reactions are caused have not been studied adequately. Most reactions are attributed to the "toxicity" of the drug. Allergic reactions are not thought to be common.

Obviously, *phenylbutazone should never be administered casually.* The following precautions should always be observed:

(1) Treatment should not be instituted until detailed history, physical and laboratory examinations have been made and evaluated.

(2) *Phenylbutazone should not be given,* without due consideration of the risk involved, *when there are:*
   - (a) The likelihood of or actual heart failure.
   - (b) Symptoms of present or past peptic ulcer.
   - (c) Renal, hepatic, or cardiac damage.
   - (d) History of drug allergy.
   - (e) History of blood dyscrasia.
   - (f) Other concurrent drugs which may increase possibility of toxic reactions.
   - (g) No facilities for or cooperation in the observance of the recommended precautions.
   - (h) Simpler regimes which have not been tried.

(3) The maximum initial daily dosage in adults should not exceed 600-800 mg. for three or four days. The routine initial dose now used in this clinic is four doses of 100 mg. daily. The minimum satisfactory maintenance dose is determined by gradual reduction of the daily dose. Many patients retain maximum improvement on daily doses of 100-200 mg. daily. The maintenance dosage should seldom exceed 300-400 mg. daily.

(4) Improvement is noted usually within two to six days. If none has occurred within seven to ten days, the drug should be discontinued.

(5) Frequent follow-up visits are imperative and should include:
   - (a) Verbal and physical examination for indications of the toxic reactions already noted.
   - (b) Weight, to detect significant water retention.
   - (c) Hematocrit, white blood count and platelet estimations at weekly intervals during the early phase of therapy, and at somewhat longer intervals thereafter, to ensure early recognition of blood dyscrasias.

(6) The importance of the following precautions should be impressed upon the patient:
   - (a) Take only the recommended dosage, to lessen the chance of toxic effects.
   - (b) Discontinue the drug and report to the physician immediately at the first sign of:
     - (1) Fever, sore throat, lesions of the mouth.

(2) Black or tarry stools or other evidence of abnormal bleeding.

(3) Peptic ulcer symptoms.

(4) Skin rash.

(5) Any rapid increase in weight or edema of the ankles.

When the above precautions are employed and the drug is given in rational doses, it is believed that the benefits to be derived from phenylbutazone outweigh the risks of serious toxic effects from it.

Summary and Conclusions

The effect of phenylbutazone was observed in forty-nine patients, of whom forty-one had either chronic rheumatoid arthritis or mixed rheumatoid and osteoarthritis. Marked subjective improvement was noted in twenty and definite improvement in twenty of the forty-one patients. One patient experienced no improvement. Measurable objective improvement, observed in ten of these patients took longer and was less impressive than subjective relief and improvement in simple locomotion.

Twenty-two (45%) of the forty-nine patients had some toxic symptoms. These were of sufficient severity to warrant discontinuing the drug in only ten (20%). Nausea, lowered hemoglobin level, skin rash, hematuria, peripheral edema and stomatitis were among the toxic effects noted. All toxic reactions subsided promptly. Other reported toxic effects are listed.

Phenylbutazone is not an innocuous drug and should not be administered casually. The physician prescribing the drug and the patient taking it should be thoroughly familiar with its possible undesirable effects. Precautions for the physician and instructions for the patient are listed. *When these precautions are observed*, it is believed that phenylbutazone is a valuable addition to the treatment of a number of rheumatic diseases and that its benefits outweigh the risks.

Six of the seven patients with miscellaneous conditions obtained moderate to complete relief.

Phenylbutazone brings relief promptly, in a few days, or not at all.

Bibliography

1. Kuzell, W. C.; Schaffarzick, R. W.; Brown, B., and Mankle, E. A.: J.A.M.A., 149:729 (June 21) 1952.
2. Stephens, C. A. L., Jr.; Yeoman, E. E.; Holbrook, W. P.; Hill, D. F., and Goodwin, W. L.: J.A.M.A., 150: 1084 (Nov. 15) 1952.
3. Steinbricker, O.; Berkowitz, S.; Carp, S.; Ehrlich, M., and Elkind, M.: J.A.M.A., 150:1087 (Nov. 15) 1952.
4. Bryon, C. S., and Orenstein, H. B.: N. Y. State Med. J., 53:676 (March 15) 1953.
5. Hemming, A., and Kuzell, W. C.: Antibiotics and Chemotherapy, III, No. 6, June, 1953.
6. Platoff, G. E.: J. Mich. State Med. Soc., 52:980 (Sept.) 1953.
7. Modern Drugs, 938, May, 1954.
8. Manual for Arthritis Clinics. New York: Arthritis and Rheumatism Foundation, 1952.
9. Brodie, B. B.; Lowman, E. W.; Burns, J. J.; Lee, P. R.; Chenkin, T.; Goldman, A.; Weiner, M., and Steele, J. M.: Am. J. Med., XVI: 181 (Feb.) 1954.
10. Mason, R. M.: Ann. of Rh. Dis., 12:82 (June) 1953.
11. Currie, J. P.; Peebles Brown, R. A., and Will, G.: Ann. of Rh. Dis., 12:88 (June) 1953.
12. Wilkinson, E. L., and Brown, H.: Am. J. M. Sc., 225:153, 1953.
13. Chenkin, T., *et. al.*: Federation Proc. 12:310, 1953.
14. Kuzell, W. C., and Schaffarzick, R. W.: California Med., 77:319, 1952.
15. Hinz, C.; Lamont-Havers, R. W.; Comin-ky, B., and Gaines, L. W.: J.A.M.A., 151:38 (Jan. 3) 1953.
16. Bershof, E., and Oxman, A. D.: J.A.M.A., 151:557 (Feb. 14) 1953.
17. Stifel, J. L., and Burnheimer, J. C.: J.A.M.A., 151: 555 (Feb. 14) 1953.
18. Estess, A. D., and Jacobson, A. S.: J.A.M.A., 151: 639 (Feb. 21) 1953.
19. Werblow, S. C., and Neher, J.: J.A.M.A., 151:1286 (April 11) 1953.
20. Steinberg, C. L.; Bohrod, M. G., and Roodenburg, A. L.: J.A.M.A., 152:33 (May 2) 1953.
21. Heck, F. J.: Postgrad. Med., 13:185, 1953.
22. Brandwein, S.: N. Y. State Med. J., 53:13, 1577, 1953.
23. Archer, B., and Kantor, M. G.: N. Y. State Med. J., 54:3, 394, 1954.
24. Kiely, J. M., and Stickney, J. M.: Proc. Staff Meet., Mayo Clinic, 28:341 (June 17) 1953.
25. Beutler, E., and Bergenstal, D. M.: Gastroenterology, 25:72 (Sept.) 1953.
26. Feldman, L.; Cohnen, F., and Hirsch, H.: Ill. Med. J., 105:83 (Feb.) 1954.
27. Fishman, H. C., and Reynolds, J.: J.A.M.A., 153:642 (Oct. 17) 1953.
28. Nathan, D. A.; Meitus, M. L.; Capland, L., and Lev, M.: Ann. Int. Med., 39:1096 (Nov.) 1953.
29. Cone, R. B.; Hannigan, C. A., and Teicher, R.: A.M.A. Arch. Dermat. Syph., 69:674 (June) 1954.

Intra-Orbital Tumors and Progressive Exophthalmos

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Transcranial Removal of Intra-Orbital Tumors

PRIOR to 1945 there were reported from the Mayo Clinic 35 cases in which orbital tumors were removed transcranially. From January, 1945, until December, 1952, an additional 73 orbital new growths were surgically treated at the clinic by this method. Progressive asymmetric exophthalmos and failing vision are obviously a primary ophthalmologic problem, for there are inciting causes other than orbital neoplasms. Many of these can be cared for in the Section of Ophthalmology, but closer co-operation among the ophthalmologist, the radiologist, and the neurosurgeon, and utilization of the cranial orbital approach may be used more frequently in the preservation of vision and maintenance of ocular function. In the analysis of data on the 73 cases in which operation was performed between January, 1945, and December, 1952, Love and Dodge[1] found that 40 patients were female and 33 were male. The youngest patient was 2 months old and oldest was 73 years. Thirty-seven patients had tumors in the right and 35 in the left orbit. One child had tumors bilaterally. The longest duration of symptoms was 12 years and the shortest 1 week. The universal complaints were progressive asymmetric proptosis and blurred or failing vision.

Varying degrees of progressive proptosis were common to all patients, and visual loss was common to most. Limited motion, restricted gaze and muscle weakness in the affected eye, with the resultant complaint of double vision, occurred frequently.

The inability of the examiner to displace the globe back into the orbit offered contributory evidence of an increase in intra-orbital soft tissue. Frequently, a mass could be palpated. Pulsation of the eye, intermittent or constant, and an auscultatory bruit lend added weight to the diagnostician's suspicion. In arriving at a diagnosis a careful study of the roentgenograms of the head and orbit is important (Table 1). Of the 73 patients, 44 showed demonstrable roentgenographic changes.

The Section of Roentgenology considers that an adequate study for the orbit might include (1) routine roentgenogram of the skull with stereoscopic lateral views; (2) views of the optic canals; (3) the Caldwell position; (4) the Waters position, and (5) occasionally, stereoscopic views of the base of the skull.

Table 2 shows the numbers of the different kinds of intra-orbital tumors removed by transcranial operation in 1945 through 1952.

The final decision as to the surgical treatment for intra-orbital tumors remains with the ophthalmologist, the radiologist and the neurosurgeon. The following, in the opinion of my colleagues and myself, are indications favoring the transcranial approach to to the orbits:

1. Deep orbital neoplasm (involvement of the orbital apex or superior orbital fissure).

2. Progressive proptosis and visual loss with increasing evidence of circulatory disruption (chemosis, keratopathy) in the absence of metabolic disease, palpable mass or roentgenographic changes.

3. Suspicion or evidence of cranio-orbital or orbito-cranial extension
   - (a) Involvement of the bone by tumor
   - (b) Intermittent or constant pulsatile exophthalmos
   - (c) Headache
   - (d) Neurologic signs.

4. Evidence of a highly vascularized neoplasm.

5. Field and nerve-head changes indicative of early encroachment on the optic nerve with minimal pressure signs.

6. Palpable tumor mass anteriorly which the examining team feels may extend too far posteriorly to be removed easily by anterior or lateral approach.

The advantages offered by transcranial approach to the orbits are (1) excellent direct visualization of the orbital contents and extent of lesion; (2) minimal necessity for palpatory exploration (lessened trauma to soft tissue); (3) more adequate control of hemorrhage by means other than pressure; (4) added decompression of orbital contents; (5) opportunity for exploration of optic nerve, optic chiasm and adjacent

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brain areas; (6) simultaneous removal of bilateral tumors; (7) utilization of intrahairline incision, which results in little postoperative cosmetic defect, and (8) opportunity for total removal of benign or low-grade malignant tumors.

Surgical Treatment of Progressive Exophthalmos

Progressive exophthalmos associated with exophthalmic goiter and often encountered after subtotal thyroidectomy may become a distressing, painful and disabling condition and present a difficult therapeutic problem.

While progressive exophthalmos occurs in only about 1 case per 1,000 of primary hyperthyroidism, it is a condition which requires observation and surgical treatment if conservative treatment fails. As with so many other conditions in the body, orbital decompression to be effective must be carried out before the intra-orbital contents have been damaged beyond repair and while the muscles and fat are resilient enough to take advantage of the increased space. Operation for the relief of progressive exophthalmos is not new. Dollinger, in 1911, was one of the first to use the Kronlein procedure. Since that time every space or potential space about the orbits has been used, by one person or another, in orbital decompression for the relief of progressive exophthalmos.

The most radical procedure and the one which has gigen best results consisted of a transcranial decompression of the orbit which was first outlined and carried out by Naffziger.

In close collaboration with the members of the Section of Ophthalmology, my colleague and I have come to the conclusion that transcranial decompression may be indicated when the Hertel reading is in the range 25 to 35 mm., and when the vision is threatened because of exposure keratitis, progressively severe chemosis, papilledema or visual field defects. The operation carried out at the Mayo Clinic is a modification of the Naffziger operation and consists of a bifrontal extradural craniotomy through a modified Souttar incision. The patient has previously been anesthetized with thiopental sodium (pentothal sodium) and curare has been given intravenously. A Magill endotracheal airway is inserted, and oxygen with nitrous oxide is administered during the entire operative procedure. My colleagues and I have found it very helpful to have a plastic needle placed in the intrathecal space in the lumbar region. Since the dura is exposed, cerebrospinal fluid is aspirated through the plastic needle into a large glass syringe. It is usual to remove 50 cc. of fluid into a sterile syringe, the fluid being replaced later. Also previous to the operation the eyelids are closed with three interrupted silk sutures. The blepharorrhaphy not only protects the eyes but also prevents postoperative edema. The dura is then stripped away from the orbits, and the roof and lateral wall of the orbit are completely removed. Once maximal bony decompression has been attained, the periorbita is incised in a stellate manner, allowing the contents of the orbit to decompress into the anterior fossa. The bone is then replaced and the skin flap is sutured with interrupted sutures of steel wire. The sutures of the eyelids are removed from 6 to 12 days following operation, depending on the severity of the protrusion.

Results of Operation.—The experience of the Mayo Clinic with transcranial orbital decompression for the relief of malignant exophthalmos as reported by Craig and Dodge[2] began in 1934 and is based on 28 cases. Twenty-one patients required bilateral unroofing of the orbits, and 2 required unilateral decompression. There were 5 other cases of malignant unilateral protrusion in which the diagnosis of thyroid disease was suspected but unproved. These 5 cases are not part of the statistical data that follow.

The average age of the 23 patients with proved exophthalmic goiter was 48 years; 15 of the patients were female and 8 were male. Eight patients of this group had not undergone operations on the thyroid gland, the malignant progressive changes in the eye having occurred during the toxic phase of their goiter.

Six weeks to 1 year was the usual interval encountered between subtotal thyroidectomy and evidence of progessive exophthalmos. One patient failed to show any interval. Acute progression required in our cases as little as 4 weeks, and as long as 3 years. Except for the 8 patients in the toxic phase, basal metabolic rates varied from normal to + 51 per cent. Nine patients underwent irradiation of the orbits prior to operation.

Maximal protrusion of the globes registered in this series was 36 and 38 mm. (Hertel measurements), and the least protrusion for which transcranial decompression was deemed advisable was 22 mm. bilaterally. Seventeen patients evidenced palsy of extra-ocular muscles, or paresis of conjugate vision preoperatively, although all patients had some limitation of ocular rotations. The rapidity of onset of the proptosis did not seem a determinant of muscle palsy. Corneal ulcers were already present in 4 cases at the time of operation.

Among all 28 patients who underwent decompression there has been 1 operative death. This was in our first case, that of bilateral orbital decompression performed on a 76-year-old white man in 1934. Except for the loss of a bone flap due to osteomyelitis in a case of unilateral decompression, there have been remarkably few complications attributable to craniotomy.

One globe was lost postoperatively. In 1 patient intracranial operation did not affect the course of her malignant progression. She subsequently became

TABLE 1

ROENTGENOGRAPHIC CHANGES WITH ORBITAL NEOPLASMS (1945-1952)

Erosion of bone	Enlargement or erosion of superior orbital fissure or both
Osteomatous thickening of bone	Calcification in orbit
Soft tissue density in orbit	Thickening of orbital plate
Enlargement or erosion of optic canal or both	Calcification along course of optic nerve
Enlargement or erosion of orbit or both	Orbital phleboliths

blind. Four patients suffered from corneal ulcerations and 2 of these had hypopyon following operation, but the most frequent postoperative difficulty was paresis of extra-ocular muscles. The diplopia experienced has proved troublesome and persistent. Pulsation of the globes has not been a serious postoperative complaint.

Four to 5 mm. was the usual amount of ocular recession recorded during the first year after intracranial decompression. In all but 1 case the condition became arrested, and recovery, although initially rapid, later tended to become slow and the path beset with minor obstacles. A number of patients convalesced for 6 to 9 months before they admitted the beginning of relief of annoying subjective symptoms. Edema of the lids frequently persisted over long periods.

It is unreasonable to expect excellent cosmetic results, visual improvement and symptomatic relief when late vascular and fibrodegenerative changes in the orbit become irreversible. In the past 10 years a noticeable reduction in morbidity and mortality rates from transcranial operations has occured. Earlier intervention and decompression before corneal, optic nerve and orbital changes vitiate results seem indicated. The occasional unnecessary unroofing of an orbit inherent in the plan for early surgical treatment of this condition seems more than counterbalanced by the opaque cornea resulting from a missed opportunity. Intracranial orbital decompression for cosmetic purposes has been condemned in the past, but at present my colleagues and I are inclined to be less adamant in respect to this viewpoint when it concerns professional persons and certain women who have been thoroughly oriented as to facts and figures pertaining to the operation.

At all times in handling the prospective surgical patient, it well to inform him that transcranial orbital decompression is not a cure, but a crutch to lean on until his own bodily economy as it affects his eyes, supplemented by such replacement therapy as is

TABLE 2

INTRA-ORBITAL TUMORS REMOVED BY TRANSCRANIAL OPERATION (1945-1952)

		Cases
Meningioma		19
Intra-orbital	8	
Intra-orbital and intracranial	11	
Hemangioma*		9
Astrocytoma (glioma)		5
Pseudotumor (inflammatory?)		5
Metastatic carcinoma		5
Hemangio-endothelioma		4
Adenocarcinoma of the lacrimal gland (cylindroma)		3
Neurofibroma		3
Fibrous dysplasia of bone		3
Sarcoma		2
Mixed tumor		2
Lipoid granuloma		1
Fibroma		1
Epidermoid		1
Pyocele		1
Epidermoid carcinoma		1
Malignant melanoma		1
Osteoma		1
Chordoma		1
Hematoma		1
Desmoid		1
Meningo-encephalocele		1
Lipoma		1
Unidentified malignant lesion		1
Total		73

*Majority cavernous but some mixed capillary cavernous

available, can be adequately readjusted. Statements regarding the postoperative cosmetic result should be guarded. Return of the eyes to normal position is possible but not to be promised, although marked

improvement is common. Progressive improvement may take place for years.

In conclusion, then, progressive exophthalmos which does not respond to the usual methods of medical or radiologic therapy is regarded as malignant. If uncontrolled, this condition progresses to the point where papilledema occurs and, if persisting, may result in loss of vision and optic atrophy. The exposed cornea with decreased nutrition becomes traumatized, and corneal ulcers develop. The conjunctiva becomes inflamed, and the final result may be blindness and enucleation of the globe.

Thus malignant exophthalmos assumes a very sinister clinical aspect. Surgical relief for the increased intra-orbital pressure has been described and used in several different forms. The most nearly complete method has been described by Naffziger, and with certain modifications it has been adopted by most neurosurgeons. The intracranial decompression of the orbits with removal of the superior and lateral orbital walls allows for the most nearly complete relief of pressure.

References

1. Love, J. G., and Dodge, H. W.: Transcranial Removal of Intraorbital Tumors. Arch. Surg. 67: 370-379 (Sept.) 1953.
2. Craig, W. McK., and Dodge, H. W., Jr.: The Surgical Treatment of Malignant Exophthalmos. S. Clin. North America. 32: 991-1003 (Aug.) 1952.

Causes and Cures for Backaches

Standing erect may help distinguish man from the animals but it certainly lets him in for a lot of trouble. Dr. James A. Tobey, Newton, Conn., said the human skeleton "is not particularly well adapted to the upright position," except for a short time when a man is young, "lean, lithe, and buoyant." The rest of his life, he is particularly prone to backache and other ills which might not occur "if he ran on all fours," Dr. Tobey said in the February Today's Health magazine, published by the American Medical Association.

Instead of actually standing erect, many people "slouch and sag, droop and sway," sometimes because of fat or cares and emotional stresses. Other factors are extra high heels, occupational hazards, later stages of pregnancy, strains, and disease. Faulty body mechanics is one of the most common causes, one of the most important, and usually the easiest to correct. The one-third of each day spent in bed may be a factor. Mattresses should be flat and even, not too soft, and free of "hollows, lumps and slants." But a good mattress is not enough. There are 57 other possible causes of backache.

One of the most significant is a sudden strain, including a twist, a sudden jerk, or lifting a heavy weight with the back instead of the arms. Communicable disease such as influenza, pneumonia, malaria, typhoid fever, and smallpox are almost invariably accompanied by backache. Low back pain, usually with mild fever, may indicate an invading virus, and calls for bed rest. Arthritis may also cause backache.

But almost half of "the poor aching backs with which the American people are afflicted" are the result of "deep-seated and vexatious nervous and emotional disorders. These back pains are not imaginary; they are very real, but mental stress is the actual culprit."

"Whether your aching back is caused by bad posture, trains, disease, organic lesions, ruptured disks, or emotional tension, in many cases it could have been prevented and in most instances it can be effectively treated." "It is, of course, much better to try to prevent the affliction. This generally can be accomplished by maintenance of good general health, by proper posture, by avoiding overweight, by preventing strains and accidents, by dodging contagions, and by the cultivation of good mental hygiene."

Dr. Tobey notes that "these are not always simple matters in our complex civilization," but they can be attained and are well worth it.

General Considerations of Cortisone and ACTH Therapy

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AMONG the hormones arising from the anterior lobe of the pituitary and from the adrenal cortex, ACTH and cortisone have attained a unique place in the mind of the physician and in the imagination of the general public. Their effects have been widely publicized and embraced with enthusiasm won by such previous wonder drugs as insulin, liver extract, sulfas, antibiotics, and the antihistaminics. Remembering that only a few years ago magazines for the public reported antihistaminics as a "cure" for hay fever, we recall that there is no "cure-all" for human illness. Most important for all, therapeutic agents are swords with two edges: "They may heal, they also may kill".[1]

Cortisone and ACTH have been available commercially for about four years, and in the literature a large number of reports have appeared giving a clear idea of their value in many clinical conditions.

ACTH (adreno-corticotropin) is a potent extract obtained from the pituitary gland of domestic animals. Cortisone and six or seven similar adrenal cortical hormones have been produced by chemical synthesis and are now produced commercially on a large scale.

The understanding of the physiopharmacological interrelationships of these hormones is far from complete; concepts are changing daily, being modified by new discoveries.

ACTH acts on adrenal cortex to stimulate secretion of cortisone and hydrocortisone with suppression of autogenous ACTH production. Cortisone suppresses adrenal cortical secretions, as well as endogenous ACTH secretion, and tends to abolish the auto-regulating mechanism normally controlled by blood stream levels of the steroids. Their general effects may be outlined below:

1. Anti-allergic and anti-inflammatory—exudation is markedly decreased, probable increased destruction of histamine; prevention of lymphocytic and fibroblastic barriers, in turn decreasing the natural lines of defense.

2. Anti-mesenchymal action—large doses tend to inhibit proliferation of mesenchymal tissue; connective tissue repair is thereby decreased and scar formation greatly inhibited.

3. Metabolic action raises carbohydrate stores by decreasing use of capillary glucose, increasing utilization of fat, enhancing transformation of protein into carbohydrate; acting on renal tubules—sodium chloride and water retention, and potassium loss; stimulating androgenic activity in acne and hirsutism, altering enzymal production—increase in pepsin and trypsin.

4. Cortisone causes adrenal cortical atrophy; ACTH causes hypertrophy of adrenal cortex.[2]

Clinical Considerations

Both ACTH and cortisone have been widely used in the treatment of disease, and the following table compiled by Christian, Friend, and Schmitker[3] lists the various illnesses in which they have been reported to exercise some effects. (See table)

The fact that these fractions influence such a large group of apparently unrelated diseases would suggest two possibilities. First, that the pathological states have a common disturbance of adrenal cortical function which is fundamentally related to the cause of the disease; or, second, that the adrenal cortex simply participates in the general defense mechanisms of the body.[4]

It has been suggested that diseases in general arise as a result of adaptive mechanisms to stress, the adrenals playing the fundamental role. We may take issue with the author on this point, but there is ample evidence to suggest the phenomenon does play a part in the evolution of certain disease states.

In a narrow sense this may be distinguished from the illnesses in which adrenals are attacked directly, such as occurs in Addison's disease on the one hand, or overt adrenal cortical hyperfunction on the other. Between these two extremes we have a large group of signs, symptoms, and syndromes as a result of the response of adrenal glands to various noxious stimuli, situations, and agents. Both ACTH and Cortisone have suppressive roles in disease, the symptoms are held in abeyance, the patients made more comfortable, but the underlying disease remains relatively unaltered.

The use of ACTH and cortisone in acute disease

Read at the Southwest Virginia Medical Society Meeting, Hotel Roanoke, Roanoke, Virginia, September 16, 1954.

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A. Disease in Which the Use of Hormones Is Advisable

Disease	Hormone	Results
Acute Drug Sensitivity	ACTH or Cortisone	Good to Excellent
Addison's Disease	Cortisone	Excellent, Supplemental Therapy Required
Adrenal Androgenic Hyperplasia	Cortisone	Helpful
Adrenal Cortical Insufficiency	Cortisone	Excellent
Anorexia Nervosa	Cortisone	Fair
Contact Dermatitis	ACTH or Cortisone	Good
Disseminated Lupus Erythematosis	ACTH or Cortisone	Fair; Holds Disease in Abeyance
Exfoliative Dermatitis	ACTH or Cortisone	Helpful
Hemolytic Jaundice	ACTH or Cortisone	Excellent in Acute Attacks
Hypoglycemia, Idiopathic	Cortisone	Excellent
Hypopituitarism, Functional or Organic	ACTH or Cortisone	Good to Excellent
Inflammatory or Allergic Diseases of the Eye	ACTH or Cortisone	Good to Excellent
(Acute choroiditis)		
(Acute iridocyclitis)		
(Acute iritis)		
(Acute keratitis)		
(Acute uveitis)		
(Sympathetic ophthalmia)		
(Vernal conjunctivitis)		
Loeffler's Syndrome	ACTH	Excellent
Periarteritis Nodoso	ACTH or Cortisone	Temporary Value; Inhibits Acute Process
Rheumatic Fever, Acute	ACTH or Cortisone	Useful in Arresting the Process
Serum Sickness	ACTH or Cortisone	Good
Toxic Agents	Cortisone	Excellent
Black Widow Poison; Snakebite		

B. Diseases in Which the Hormones Are Useful

Acute Dermatomyositis	ACTH or Cortisone	Fair
Bronchial Asthma	ACTH or Cortisone	Fair to Good in Acute Intractable Cases But Disease May Recur When Discontinued
Burns	ACTH or Cortisone	Helpful
Dermatomyositis	ACTH or Cortisone	Fair
Erythema Nodosum	ACTH or Cortisone	Fair
Gout, Acute	ACTH or Cortisone	Good—Relapse without Colchicine
Multiple Myeloma	ACTH or Cortisone	Fair (Blast Type)
Pemphigus	ACTH or Cortisone	Temporary Help
Psoriasis	ACTH or Cortisone	Clears; But May Recur
Pulmonary Beryllosis	ACTH or Cortisone	Temporary Help
Regional Enteritis	ACTH or Cortisone	Temporary Help
Rheumatoid Arthritis	ACTH or Cortisone	Excellent But Usually Recurs
Sarcoidosis	ACTH or Cortisone	Much Improvement
Ulcerative Colitis	ACTH or Cortisone	Fair
Urticaria	ACTH or Cortisone	Excellent
Vasomotor Rhinitis	ACTH or Cortisone	Excellent

C. Diseases in Which the Hormones Are of Limited Value

Atopic Dermatitis, Chronic	ACTH or Cortisone	Permanent Remissions Are Rare
Cancer	ACTH or Cortisone	Usually Poor Response
Leukemia and Lymphosarcoma	ACTH or Cortisone	Useful with Anti-Folic Acid Derivatives
Nephrotic Syndrome	ACTH or Cortisone	Useful, Producing Diuresis
Scleroderma	ACTH or Cortisone	Useful in Early Cases But Therapy Must Be Continuous
	ACTH or Cortisone	

D. Diseases in Which the Hormones May Be Harmful

Acne	Hirsutism
Congestive Heart Failure (Except Certain Cases of Failure Produced by Acute Rheumatic Fever)	Osteoporosis
Cushing's Syndrome	Hypertension
Peptic Ulcer	Tuberculosis (Possibly)
	Diabetes Mellitus

may seem mandatory. However, use in chronic affections must be decided individually with reference to the practical means of maintenance, recurrent courses and chance of improvement of the patient's state of health by a period of induced remission. For example, there is no satisfactory answer yet to these problems in the treatment of rheumatoid arthritis.

Since the hormones have far-reaching effects on the body as a whole, their administration in the home or office may become quite complicated or even dangerous. The physician must ask himself if the disease can be managed by conservative proven methods, such as aminophyllin, adrenalin, iodides in treatment of asthma, or salicylates, physiotherapy, rest and general nutritional care in rheumatoid arthritis. Whether he has had success on previous occasions with this patient on conservative measures, and is it the wiser to initiate newer, more dramatic but more dangerous treatment? Will he be able to follow certain precautions and assume the risk inherent in hormone administration?

Before treatment is started the patient should have a chest x-ray, blood sugar determination, complete blood count, urinalysis, Kahn, blood pressure and weight recordings. If there is any history of peptic ulcer, a gastrointestinal x-ray should be made, stools for occult blood; EKG's for heart damage and repeat at intervals, to discover potassium changes early; renal function tests should be made, and a search made for emotional and psychiatric difficulties. These observations should be repeated frequently during and after therapy, and the patient should be observed especially for weight gain, edema and glycosuria, and check on blood pressure. Furthermore, it is advised that the physician place the patient on low salt diet with supplemental potassium chloride 2 to 8 gms. daily.

Dosage and Administration

The general dosage schedule should be the smallest to control the disease process; free use of adjunctive agents for relief of symptoms is indicated. Before ACTH and cortisone are started, the patient must be made to understand the limitation of hormone treatment and the need for full cooperation made clear.[5] This will cushion the psychic insult on return of symptoms with the cessation of therapy. Cortisone (comp.E) may be administered intramuscularly in sterile aqueous suspension (micro crystals) 25 to 50 mg. at 8 hour intervals. This form of administration has no advantage over the oral route which is more rapidly absorbed and eliminated a little more rapidly, thus requiring a slightly higher dose, given on a 6 hour basis. Tablets are available in 5, 10, and 25 mg. size. Hydrocortisone (comp.F.)—a little more refined than cortisone is available for systemic and intra-articular use. Its action parallels that of cortisone, its main advantage is one of dosage, 2/3 that of cortisone, thereby the untoward effects lessened. Used intra-articularly, the dose is 20-25 mg. injected into a joint at 7 to 21 day intervals, being repeated only if necessary.

Topically, cortisone and hydrocortisone are prepared as ointments in 1 and 2½% strength. It is to be pointed out that intra-articularly and topically these compounds have little or no systemic effect. ACTH may be given 5 to 25 mg. every six hours in saline solution; gels, aluminum phosphate or various depo agents given once daily in doses of 20 to 40 mg. or less.

Conditions that Complicate or Contraindicate Cortisone and ACTH Therapy

The therapeutic effects of cortisone and ACTH in many conditions depend on their ability to alter reaction of body tissues to noxious stimuli.[6] The following conditions may be mentioned:

First. In many diseases the noxious stimulus is not known. Often only the inflammatory reaction at specific sites is the disease process as clinically recognized. For example, in a patient suffering from rheumatoid arthritis, such suppressive therapy may constitute adequate control. But in infectious disease, particularly pulmonary tuberculosis, the suppression of tissue reactivity may led to dissemination, while the patient's temperature, leukocyte count and clinical appearance may remain unaltered or improved.

Second. Because of the host altered reaction to peritoneal irritation, the diagnosis of perforation may be difficult in the cortisone treated individual; normal temperature, pulse, blood pressure, and the absence of abdominal rigidity and leukocytosis have been referred to in the literature.[7]

Third. One of the most important complications of therapy is gastrointestinal ulceration with bleeding or perforation. An increase in hydrochloric acid and pepsin in gastric juice has been observed, and reactivation of peptic ulcer has been a repeated experience.

Fourth. Symptoms and signs of Cushing's syndrome, edema, fullness of the face, acne, hirsutism, striae, hypertension, glycosuria, menstrual changes, personality change with depression even to frank psychoses. This category, especially the edema and hypertension, may proceed rather rapidly to frank

cardiac failure.

Fifth. A group classified as other general complications—that is a mild diabetic made into a frank state of diabetes. Wound healing is markedly delayed, and all bleeding tendencies aggravated. Osteoporosis, generalized type, may go ahead to possible fracture.

Sixth. It has been claimed that adrenal atrophy resulting from cortisone therapy can be reversed by stimulating doses of ACTH during or after cortisone therapy. Although this is undoubtedly true, the duration of treatment and the dosage of ACTH necessary to bring this about is not known, and one cannot be sure of the function and integrity of adrenal cortex. Both ACTH and cortisone cause changes in the pituitary, and it is therefore difficult, when using the stimulative dose of ACTH following and during cortisone therapy, for us to develop any true and really lasting protection against subsequent stress. Any stress situation, trauma or surgical operation may precipitate full-blown acute adrenal insufficiency and death.[8]

Finally, ACTH may cause anaphylatic reaction, convulsions and death.

The absolute contraindications agreed upon by all major authorities are an acute psychosis, active peptic ulcer, tuberculosis and syphilis, hypertension (especially for the use of ACTH), congestive heart failure due to mechanical defects, subacute and chronic glomerulonephritis with marked azotemia, and acute bleeding tendencies.

In summary, a consideration of the value of ACTH and cortisone in certain diseases is presented.

1. Therapeutic doses result in physiologic disturbances of pituitary and adrenal relationship, which continue for an uncertain period of time following cessation of therapy.

2. Their usage must be accepted as a calculated risk.

3. Their usage may render the patient deficient in adrenal cortical hormones during periods of stress, i.e., trauma, surgery, infection, *et cetera*.

4. A plea is made for more rational use of hormone therapy, reduction of dosage schedules, so that their remarkable and beneficial results may be utilized to the best advantage.

References

1. Hansen-Pruss, O. C.: Present Status of ACTH and Cortisone Therapy in Treatment of Asthma. Southern Medical Journal, Vol. 46, No. 8, P. 814 (1953).
2. Zimmer, Fredrick E. Difficulties Encountered in Therapeutic Use of Cortisone and ACTH. American Practitioner. Vol. 5, No. 7, P. 511 (July, 1954).
3. (Table) Medical Treatment of Disease—Oxford Looseleaf. Chapter II, Vol. VIII.
4. Thorn, G. W.; Forsham, P. H.; Frawley, T. F.; Hill, S. R., Jr.; Roche, Marcel; Staehelin, Dietrich, and Wilson, D. L.: The Clinical Usefulness of Cortisone and ACTH. New England J. Med., 242: 783, 1950.
5. Soffer, L. J.: ACTH and Cortisone—Physiological and Clinical Considerations. Medical Clinics of North America, P. 791 (May, 1952).
6. Forsham, Peter H.: Present Status of ACTH and Cortisone Therapy. Med. Clinics of North America, P. 1229 (Sept. 1951).
7. Zimmer, Fredrick E.: (Same as 2).
8. Zimmer, Frederick E. (Same as 3).

Johnston Memorial Clinic

New Use for Polo Belts.

People who wear polo belts are not necessarily polo players, according to a Chicago physician.

Dr. Philip Lewin said for 35 years he has prescribed the wide, buckled polo belts for various back troubles, such as strains at waist level and lumbago. With heavy elastic webbing inserted in the sides, the belts are helpful when shoveling snow, playing golf, gardening, and carrying the baby, he said in the January 1 Journal of the American Medical Association.

Confirmation of his theory came from a department store clerk in New York City. She told him that on snowy or bad-weather days she makes about 20 sales—and out of 100 persons who buy polo belts, only one is a polo player.

Intestinal Obstruction Due to Metastatic Melanotic Sarcoma Nine Years After Removal of Primary Tumor

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INTUSSUSCEPTION is the most important cause of intestinal obstruction in children, but in the adult it occurs less frequently. The clinical diagnosis is much less obvious than in children. An etiologic factor was demonstrated in only 5% of cases in infants reported by Ladd and Gross[1]—(quoted by Bancroft and Wade). In adults the etiology is disclosed in about 70% of cases,, usually a tumor or a Meckel's diverticulum.[1] Removal of the cause is essential. Tumors of the small intestine are relatively infrequent and melanomas comprise a small percentage. The literature (prior to 1951) reveals only 31 reported cases; while usually metastatic, a few were considered primary when another site could not be found. In none of the cases reported was the diagnosis suspected preoperatively.[2]

This report describes a case where several factors were considered of unusual interest, namely, the long interval between the removal of the original melanoma and the disclosure of two metastatic tumors in the jejunum where a double intus-usception had occurred.

Case Report

History: J.F.B., a white male, 43 years of age, was admitted to the Medical Service of the Veterans Administration Hospital, Lebanon, Pennsylvania, on December 19, 1953, complaining of periodic abdominal cramps, nausea, occasional vomiting, constipation, abdominal distention, and flatulence of about two months duration. Past history revealed that in 1943 a "mole" was discovered on the anterior surface of his right thigh. This was fulgurated in January, 1944. While overseas in the Army in October, 1944, a mass of lymph nodes was removed from the right inguinal region. The diagnosis of melano-sarcoma was made by the Army Institute of Pathology. In June, 1945, at the Walter Reed Hospital, a radical resection of the aortic nodes as well as the inguinal nodes was done. The pathology report was "hyperplasia, no specific evidence of tumor."

Examination: The patient is a well developed white male adult. Findings are limited to the abdomen and right inguinal region. There is an incisional scar from the right lumbar area to the junction of the middle and upper portion of the right thigh. The scar is non-adherent and non-tender.

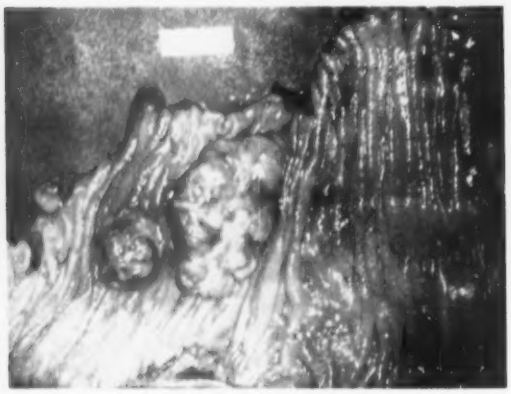

Fig. 1.

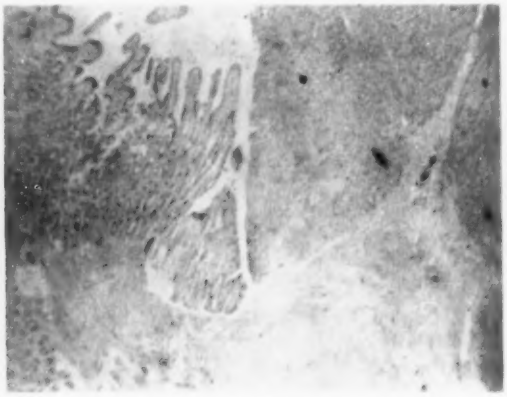

Fig. 2.

There was no definite localized tenderness; no masses were palpable. Peristalsis was slightly hyperactive at times. Some lymphedema of the right leg was present. Rectal examination was negative.

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Received for publication, October 15, 1954.

Laboratory Data: Serology negative. RBC 4,250,000. Hgb. 11.95 WBC 5,500. Cephalin flocculation 24 hours 2 plus, 48 hours 3 plus. CO_2 64 vol%. Blood chlorides 522 mgs.%. X-ray of gall bladder showed it to be abnormally functioning. Barium enema: "There is no evidence of organic disease of large bowel or terminal ileum. There are two short lengths of small intestine partially distended in the upper quadrant. There is a disordered motor function of jejunum and ileum believed to be secondary to multiple adhesions producing incomplete obstruction."

The gastroenterologist thought that the partial obstruction was due to recurrence of the malignancy. Patient was seen by the Tumor Board and exploration recommended.

Course: He was transferred to the Surgical Service on January 8, 1955, and after preparation with intravenous glucose and saline, vitamins, and the introduction of a Miller Abbott tube, a laparotomy was performed January 13, 1955.

Operation: Under spinal anesthesia and through a transverse incision above the umbilicus, the abdomen was explored. A markedly dilated small intestine, apparently jejunum, was found and, following this loop, one was led to an area of small bowel about 8" in length that was intussusepted. By palpation and gentle traction the intussusception was freed only to disclose a smaller intussusception, in which a definite tumor formation could be felt. Due to the friability of the serosa and the presence of tumor, a resection of about 8" of intestine including the tumor and intussusepted intestine was done. An end to end anastomosis was made. Further exploration revealed no other tumors but several enlarged mesenteric lymph nodes were found and one was removed for biopsy.

An uneventful course followed. The Miller Abbott tube was removed on the second postoperative day, at which time the patient was able to take oral nutrition and was passing flatus. Sutures were removed on the eighth day. The patient was discharged in good condition on February 3, 1955. He reported for follow-up gastro-intestinal X-ray on May 1, 1955. He had been in good health, eating well with no recurrence of previous attacks. Gastro-intestinal X-ray showed normal function of the small intestine.

Pathological Report: **Gross:** (1) Mesenteric lymph node was 0.8 cm. in greatest diameter. Cut surface was not remarkable. (2) Unopened section of small intestine, measured 15 cm. in length. The proximal portion, after being opened, showed a circumference of 11 cm., the distal portion 6 cm. The wall appeared somewhat congested and the submucosa edematous, particularly at the proximal end. There was a dimpled depression at one point beneath which a tumor was felt within the lumen, attached to the bowel wall. Upon opening the bowel two masses were seen arising from bowel wall with an interval

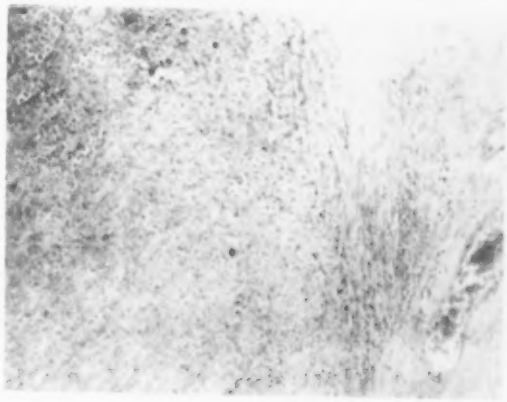

Fig. 3

of unaltered bowel 2 cm. in length between them. The larger mass measured 4.5x3x1.5 cm., the small 1.5x1.5x1.5 cm. They both arose from a broad base from the wall of the bowel. The tumors showed a low lobular surface with superficial necrosis. The cut surface was dense, and of a pinkish, yellow-gray appearance. (Fig. 1)

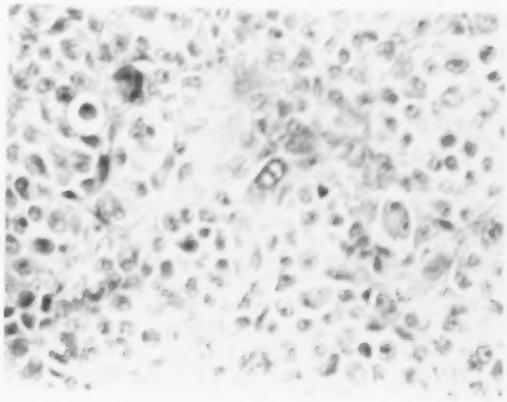

Fig. 4

Microscopic: (1) Lymph node, inflammatory reaction. (2) Tumors show closely packed cords and masses of polyhedral cells with large vesicular nuclei and scanty cytoplasm most resembling nevus cells. There is little nuclear or cystoplasmic variation, although an occasional mitotic figure can be found. A few cells containing blackish-brown pig-

ment which is interpreted as melanin. At their margins in the submucous layer of the bowel there is some invasion of adjacent normal tissue. (Fig. 2)

Diagnosis: Melanoma, metastatic, of small intestine; intussusception due to above. Lymph node hyperplasia, inflammatory. (Figs. 3 and 4)

Discussion and Conclusion

An excellent review of intussusception in adults, as well as interesting case reports, can be found in an article by Brayton and Norris.[7] Intestinal melanoma is much more common in males than in females, especially white males.[6] In one report the ratio was 13 to 3.[2] While abdominal symptoms are not distinctive, signs of incomplete obstruction, such as distention, nausea, constipation alternating with diarrhea, and flatulence are common to all. In 51 cases reported in the literature, intussusception occurred in 12; it might have been present in an additional one reported by Chitwood and Guarino.[6] Seven cases were operated early in the disease, of which 4 died shortly after surgery.[2] X-ray studies, while suggestive of pathology of obstruction, rarely gave a definitive diagnosis. Some distention of the lumen and distortion of the mucosa was present.

The behaviour and dissemination of melanoma is unpredictable. An "insignificant mole" may cause wide spread fatal metastases, or may metastasize years after removal, or rarely a spontaneous recurrence may occur. The spread may be by lymphatics or by blood stream, and in the case of the latter may develop in every organ of the body. Cerebral and intestinal metastases have occurred from unsuspected primary growths. For further description and discussion of melanoma Willius[3] is recommended.

The only basis for the conclusion that a melanotic tumor of the bowel is a primary one is the failure to find a source elsewhere[6]. The case against the primary origin of gastro-intestinal melanoma can be found in a report by Herbut and Manges[4].

In conclusion, with the history of a mole present, or removed at any time in the past, a clinical picture of intestinal obstruction should make one suspect a metastatic bowel tumor as the causative factor.

Addendum: Since my last examination of the patient it has been reported to me that he developed multiple subcutaneous nodules the latter part of 1953. The biopsy of one of these nodules was reported as malignant melanoma metastasis. This no doubt represents wide spread vascular metastases and a fatal termination may have already occurred.

Bibliography

1. Bancroft, F. W., and Wade, P. A.: Surgical Treatment of Abdomen. J. B. Lippincott, 1947.
2. Richman, A., and Lipsay, J. J.: Melanomas of the Small Intestine and Stomach. J. Mt. Sinai Hospital, 17: 907, 1950-51.
3. Willius, R. A.: Pathology of Tumours. C. V. Mosby Co., 1948.
4. Herbut, P. A., and Manges, W. E.: Melanoma of Small Intestine. Arch. Path., 39: 22, 1945.
5. Galgona, A. R.: Long Survival in a Malignant Melanoma. J.A.M.A., 152: 518, June, 1953.
6. Chitwood, Ed. M., and Guarino, G. B.: Primary Melanoma of the Ileum. Va. Med. Monthly, 81: 6, 259-60, June, 1954.
7. Brayton, D., and Norris, W. J.: Intussusception in Adults. Am. J. Surg., 88, 1, 32-43, July, 1954.

Tips to Teens

How to grow up gracefully is the story dramatized in AMA's newest radio transcription series prepared especially for use of local medical societies. Dealing with the health and emotional problems of modern teenagers, "16—Growing Up" covers such things as the young person's place in the family, getting started in the world, good and bad gangs, skin problems and money matters.

An interesting sidelight is the fact that Jane Webb, Hollywood actress who plays the part of the mother, was a child star on AMA health programs 15 years ago. Now a young mother herself, she made a special trip to New York to do this AMA show.

This 13-program series is available through the Bureau of Health Education.

The Medical Society of Virginia . . . .

American Medical Education Foundation

The fourth annual meeting of the state chairmen of the American Medical Education Foundation was held at the Sheraton Hotel in Chicago, January 25, 1955, with Dr. Edwin S. Hamilton, member of the board of directors of the Foundation and trustee of the A.M.A., presiding. He welcomed the group to the meeting and extended congratulations to the Woman's Auxiliary of the A.M.A. for their aid to the A.M.E.F. in the past year. The presiding chairman further advised the members that his own State, Illinois, had successfully effected a $20.00 dues increase, but that this had met with considerable opposition from some of the county societies. He felt if some such plan was not followed by the other states that it would be necessary for the A.M.A. to raise their annual dues to meet the needs for medical education. He also stated that unless the physicians themselves would demonstrate these funds could be raised, the federal government would step in to fulfill this need.

Dr. Walter B. Martin, member of the Board of Directors of the A.M.E.F. and President of the American Medical Association, talked on the matter of continuing our high standards in medical education and the cost of present day medical education. In support of the A.M.E.F., he stated that physicians know the importance of good medical education, and they are the ones most responsible for it; therefore, the A.M.A. must take more responsibility than formerly. He said it is proper that physicians should pay their debt to society since a sizable portion of their education was financed with outside assistance.

Dr. Hamilton then introduced Mrs. Frank Gastineau, national chairman of the American Medical Education Foundation Committee, Woman's Auxiliary to the A.M.A. Mrs. Gastineau reported the Woman's Auxiliary had raised approximately $50,000 in 1954 for the A.M.E.F. and many various methods had been used to raise this money which ranged from selling crocheted dish rags to chances on mink stoles. However, Mrs. Gastineau felt that the personal appeal appeared to be the most effective.

Mrs. George Turner, president of the Woman's Auxiliary to the American Medical Association, was then introduced. She briefly discussed the history and the purpose of the Woman's Auxiliary and stated she hoped that the Woman's Auxiliary would contribute $100,000 to the A.M.E.F. in 1955, doubling the amount given in 1954.

Dr. Hamilton then introduced Dr. Charles Ruggeri, President of the Utah State Medical Association, who said that in 1953 the House of Delegates of the Utah State Medical Association voted to assess each member a dues increase of $20.00 to meet the present increase for medical schools. In the opinion of physicians in Utah, freedom must be preserved to practice medicine without compulsion and unless physicians provide leadership to aid medical education voluntarily, the schools will be forced to accept a government subsidy. He also stated that many of their physicians contributed to the A.M.E.F. in addition to their state society assessment.

Dr. D. W. Heusinkveld, President-elect of the Ohio State Medical Association, told the meeting that the Ohio State Medical Association advised the physicians to give through their alumni funds or through the A.M.E.F. He reported that each member receives a direct mail appeal from the society president with an A.M.E.F. postpaid envelope enclosed, and the local chairmen are asked to follow up with personal solicitations. It seems that this method has worked fairly successfully in the State of Ohio.

Dr. Edward L. Turner, Secretary-Treasurer of the Foundation and Secretary of the Council on Medical Education and Hospitals of the A.M.A. gave some very interesting facts and figures on medical education.

At the afternoon session the first speaker was Mr. James G. Burch, Director of Public Relations, Connecticut State Medical Society. Mr. Burch reported that the Connecticut program which was started in October 1951 placed the responsibility for planning and conducting the campaign for the A.M.E.F. upon the Public Relations Committee. He outlined the method used by the Committee: (1) Each county Public Relations Chairman was asked to divide his county into campaign districts and to interest physicians to serve as volunteer leaders in each district; (2) As soon as the district leader had been appointed, he was sent a kit including contribution cards, background information, etc. for team members. Each district leader was required to appoint team members to personally contact an average of 10 physicians in his district; (3) Team members received a kit containing factual information and they contacted phy-

sicians listed on contribution cards supplied by their district leaders.

Mr. Hiram W. Jones, Executive Secretary of the Foundation, further discussed fund raising methods and ideas. After this a question and answer period was held.

After attending this meeting and listening to the discussion on the various methods used in raising money for the A.M.E.F., all of which seemed to have some merit, it seems to me that the problem boils down to educating the physicians as to what the A.M.E.F. stands for and what it could do to aid future medical education. I believe that in our state a combination of these methods has to be worked out according to the population. However when possible, personal solicitation would certainly seem advisable, but in many instances not practical. The combination of appeal by mail and personal solicitation whenever possible seems to be the combination that we will have to try to work out at the present. It would seem that the increase in medical dues to raise this money will have to be delayed until physicians learn more about the needs of the A.M.E.F. I also feel that the Woman's Auxiliary can not only help in their own organizations in raising money, but may also help to sell the idea of contributing to some of their husbands.

RICHARD A. MICHAUX, M.D., *Chairman*

Meet Your Colleagues Along the Boardwalk!

Physicians attending the AMA's 104th Annual Meeting June 6-10 in Atlantic City may not have much time for casual strolling along the boardwalk, but they'll find ample opportunity for catching up on the latest discoveries in medicine. AMA has lined up nearly five full days of lectures, scientific and technical exhibits and color television and motion picture presentations to give you a good "short course" in postgraduate medical education. Between 13,000 and 16,000 physicians are expected to attend the convention which will center its activities in the Atlantic City Auditorium and adjacent hotels. Headquarters will be at the Traymore hotel where the House of Delegates will convene.

Outstanding scientific features include: A report on the Salk polio vaccine trials at a joint meeting of the sections on pediatrics and preventive medicine; a general discussion of resuscitation of the newborn for the sections on anesthesiology, diseases of the chest, general practice, obstetrics and pediatrics; exhibit-symposiums on rheumatism and diabetes; fracture and fresh pathology exhibits, and a new "Queries and Minor Notes" feature in which consultants from all branches of medicine will be on hand in convention hall to answer physicians' questions concerning specific cases. In addition, the Air Force will demonstrate its "flying infirmary" on the beach in front of the Auditorium throughout the week.

More than 325 scientific exhibits and 350 technical exhibits will be on display. The color television program will present interesting surgical and clinical demonstrations piped directly into the Auditorium from Philadelphia hospitals.

Special note to all physicians: The Auditorium will be open exclusively for physicians from 8:30 a.m. to 12 noon on Wednesday so that you may move more freely among the exhibits and have more time for questioning exhibitors.

Public Health . . . .

MACK I. SHANHOLTZ, M.D.
State Health Commissioner of Virginia

Poliomyelitis Vaccine Plans, 1955

It is expected that the report of Dr. Thomas Francis, Jr., Director of the Poliomyelitis Vaccine Evaluation Center, Ann Arbor, Michigan, will be submitted to the National Foundation For Infantile Paralysis, on or about April 1. Dr. Francis and his group are now carefully checking the records of 1,830,000 school children; 45,150 of these are Virginians who participated in the nation-wide field trials last year and his report will show whether the vaccine will be recommended for use in preventing the disease.

If it proves to be satisfactory and is licensed by the National Institutes of Health of the Public Health Service, the vaccine will be offered immediately to school children in the first and second grades throughout the nation and to school children in the current third and fourth grades who participated in the field trials last year but did not receive the vaccine. Alaska and Hawaii are included with continental United States. Last October the National Foundation For Infantile Paralysis contracted for nine million doses of the vaccine, and on receipt of the notice of approval and licensing, will distribute it to State Health Departments for use as outlined, without charge for the product. State and local health officials will administer the program.

In addition, the manufacturers have been producing additional supplies which will be available for purchase, to be given by physicians to others who will not be in the groups designated by the National Foundation. If the vaccine is not licensed, it will not be used.

In Virginia, figures as to actual enrollments in the first two grades in public, private and parochial schools have already been sent to the National Foundation For Infantile Paralysis. The Poliomyelitis Committee of The Medical Society of Virginia has given its approval to the administration of the vaccine provided it is licensed. A planning committee has been set up, composed of representatives from the Virginia State Health Department, the office of the Department of Public Education, the National Foundation For Infantile Paralysis, and The Medical Society of Virginia. County and city health directors, superintendents of schools, and chapter representatives of the National Foundation will meet on March 14, at the Hotel Roanoke, Roanoke, to discuss plans for administering the vaccine throughout the state, if and when it is available. For the first hour each group will separately study the manual. A joint meeting will follow to discuss plans for all groups working together and to provide for smooth operation in administering the vaccine.

All communities must make ready ahead of time for this vaccine program so that if and when we are told that the vaccine is acceptable, the "go" signal can be given to immunize the groups before the poliomyelitis season begins. Parental consent must be obtained for each child who receives the vaccine. The projected vaccine program will not be another test. It will be the first use of a newly established preventive measure given to groups in which poliomyelitis appears in largest numbers.

MONTHLY REPORT OF BUREAU OF COMMUNICABLE DISEASE CONTROL

	Feb. 1955	Feb. 1954	Jan.-Feb. 1955	Jan.-Feb. 1954
Brucellosis	3	4	3	4
Diphtheria	1	10	3	17
Infectious Hepatitis	186	492	348	998
Measles	413	1906	766	2875
Meningococcal Infections	9	10	15	24
Poliomyelitis	3	4	3	7
Rocky Mt. Spotted Fever	1	0	2	0
Streptococcal Infections	1114	504	1869	1114
Tularemia	3	6	4	17
Typhoid Fever	7	5	10	8
Rabies (In Animals)	49	48	110	78

Medico-Legal Notes . . . .

Malpractice and the Emotionally Disturbed Patients.

A large part of any doctor's practice consists of people with emotional illness. This includes not only the frank neuroses, psychoses and personality disorders, but their much more numerous cousins—patients with physical disorders and physical complaints rooted in emotional conflict. It includes, indeed, the whole spectrum of disorders of function and tonicity that are generally labelled "psychosomatic".

Through the huge literature of emotional and psychosomatic medicine, one finds little reference to one aspect of this practice that may prove a trap for the unwary practitioner—that is the possibilities of becoming involved in malpractice action. This arises because of five factors peculiar to emotionally disturbed patients:

(1) Many of them are litiginous by temperament. While most emotionally sick patients are not aggressively litiginous, the reverse is not true. The fact is that nearly all chronic litigants are emotionally disturbed.

(2) Emotionally disturbed patients are more likely to confuse fact with fantasy than are emotionally stable patients. A doctor who lances a boil and gives the female patient a sedative first may be shocked to find that she later has fantasied a seduction or even an assault. The sedative combined with the doctor's manipulation of her face or body combined with, one knows not what unconscious sexual fantasies, all mixed together and produced this picture in the mind of the disturbed patient.

(3) If the patient is mentally ill, the doctor's action may result in the patient's losing his liberty (being committed to a state hospital), losing control of his affairs (being declared incompetent) and the like. This obviously invites malpractice charges since from the patient's viewpoint this action, initated by the doctor, may be unjustified.

(4) What the doctor has to say about the mental or emotonal patient may lead to a charge of libel or a civil suit based on slander or defamation. For example, the doctor may have to say that the patient is an alcoholic, a homosexual, a neurotic, a drug addict, incompetent, and so on. Resenting such a classification, the patient may initiate legal action.

(5) Failure to obtain provable consent to an operation or other procedure has been a malpractice booby-trap to more than one physician. Since in this area, the doctor deals with persons of questionable competency, the problem is especially delicate here. The patient may consent to the procedure, but if he is incompetent, this consent is legally worthless, and the doctor may be liable if he failed to obtain the consent of the guardian or a responsible relative.

A physician can be personally sued on a malpractice matter even if he is employed by a city, state or federal government, and is acting in accordance with his official duties. It would be wise for all doctors to carry malpractice insurance even if they are employed full-time by government agencies or institutions.

A physician who uses a novel or experimental procedure does so at his own (financial) risk. The fact that the patient consents or that he waives the right to sue does not offer any protection if the doctor is negligent. A patient cannot waive the doctor's duty to avoid negligence.

Even though a patient is being treated gratuitously—as in a free clinic—he retains his right to sue the doctor if he thinks the practitioner is negligent.

Contributed by HENRY A. DAVIDSON, M.D., *Assistant Superintendent of the Essex County Hospital at Cedar Grove, New Jersey. Dr. Davidson is also an instructor in legal medicine at the Medical College of Virginia and the author of the standard "Forensic Psychiatry" (Ronald Press, New York 1953)*

Annual Meeting—The Medical Society of Virginia

October 16, 17, 18 and 19, 1955

Richmond, Virginia

Notes On Pulmonary Tuberculosis . . . .

Modern Therapy IX
Factors Which Influence Termination of Treatment (B)

Allusion has been made repeatedly to practical advantages which could accrue to the general practitioner should he accept, as a working hypothesis, the concept of sub-clinically active pulmonary tuberculosis as a distinct entity or phase of tuberculosis which *invariably* must be *assumed to follow* in the wake of clinically demonstrable active disease, and for which specific formal treatment should equally invariably be prescribed. In other words, from this point of view, the disease process is *presumably* active and is treated as such.

Upon completion of this treatment the patient's disease can be re-classified as "apparently inactive". The disease process is now *presumably* inactive, and as such, is *not* recommended for treatment. (See September and October issues, Virginia Medical Monthly).

It has proven to be not too difficult for most persons to comprehend why *all patients who recover from clinically active tuberculosis must necessarily* pass through *each* of these successive intermediate stages—a working hypothesis that is not merely easy to understand, but one which is *compatible with everything that is known about tuberculous pathology*.

* * * * * *

Brief reference should probably be made at this point to an opposing theory, currently espoused by some physicians. This theory holds that while some "inactive" cases do *not* need treatment, there are others *that do*. Since an *identical* term in used to describe both, one instinctively wonders *which* of these two fundamentally divergent groups is the *more*, or the *less*, inactive, with reference to the other.

If *any* case of pulmonary tuberculosis is curable (clinically), and the sponsors of this classification concede that many are, then it would seem that the word "cure" might be substituted, without serious objection upon their part, for the term "inactive", *when* the patient has been living "under normal conditions of life", for an agreed upon period, *without treatment*.

But when one then proceeds, with seemingly sound logic, to attempt to substitute this agreed upon synonym of "cure", for "inactive", when application of this latter term is extended to include cases *still under treatment*, he is confronted with an impasse—which is not resolved by recourse to the phrase "cured—but not cured". While the latter would seem to be aptly descriptive of the status "Inactive—in need of treatment", it is, unfortunately, no less difficult for the average person to understand.

Most laymen have no difficulty in accepting the validity of elementary distinctions commonly made between degrees of intensity of clinical patterns exhibited by patients with *active* tuberculous disease. And as long as these lesions remain unhealed it is taken for granted that their respective activity status will be subject to fluctuation—may change from "*more* active" to "*less* active"—or vice versa—all of which is easy to understand.

Even the differentiation between "clinical" and "sub-clinically" active tuberculosis has not proven to be too hard for public health workers and patients to grasp, and to accept in terms of need for *additional* treatment for the latter. But the distinction between cases which are "cured" (*not* in need of treatment), as opposed to those which are "cured—but not cured" (*in* need of treatment) has proven to be much more difficult and often impossible to convey.

Indeed, this is a chief reason why this widely publicized but apparently wholly impracticable classification of activity status is *not* recommended for use by public health workers affiliated with the Division of Local Health Services in the Virginia State Health Department.

* * * * * *

Should the general practitioner in Virginia, in turn, care to accept as a working hypothesis the concept of sub-clinically active pulmonary tuberculosis, he must accept responsibility for its treatment, when dealing with tuberculous individuals in need of treatment and who are curable. Since the course of the disease, during its sub-clinical phase, cannot be followed objectively, intelligent direction of therapy must necessarily depend, in each individual case, upon knowledge of antecedent history. The attending physician *must* know (1) *How sick* the patient has been, (2) *How long* he has been sick, (3) *How well he responded to treatment*, during the clinical phase (See March 1955 issue, Virginia Medical Monthly).

Inasmuch as treatment prescribed during the sub-clinically active phase, particularly as applied to systemic rest, will be directly related to these three factors, which are themselves extremely variable,

daily rest schedules as well as total treatment spans, as measured in terms of many months' or more, prescribed for the sub-clinical phase, will be correspondingly divergent and *individualized*. For example, patients may embark upon treatment regimes which range from 24 hours flat in bed per diem, to those which involve comparatively little deviation from their pre-illness life patterns.

Uninterrupted application of whatever regime is in force at the time of disappearance of all clinical evidence of active disease stems from the elementary fact that one is still treating the *same* patient for the *same* disease. If the patient was unable to erase tangible evidence of active tuberculosis on anything short of 24 hours per diem flat bed rest, there is no logical basis for assuming that he can succeed any better in influencing the course of his disease during the sub-clinical phase. At the other extreme would be those who improve exceptionally well upon progressively liberalized programs. They would begin treatment for sub-clinical disease upon the rest schedule most recently prescribed (however liberal), that had been in effect long enough to have been credited, in whole or in part, for final elimination of the last vestiges of clinical disease.

In the complete absence of criteria during the sub-clinical phase, by which to progressively modify the rest regime, it is suggested that once started the patient continue without modification upon this self same schedule *throughout the total calculated sub-clinically active phase*. Although a conservative approach of this character undoubtedly would result in some patients taking more rest than they might actually need during the latter portion of the sub-clinical phase, it would prevent others from *prematurely* liberalizing their programs, which of the two is a *much* more costly mistake, and one *which has too often been made* in the past.

Naturally throughout the sub-clinical phase repeated x-ray, laboratory, and other examinations should be performed to make sure the patient has not clinically reactivated (in the absence of symptoms).

Upon completion of treatment, and depending upon the rigorousness of the systemic rest regime in force during the sub-clinical phase, varying periods must be allowed for gradual restoration of the patient's physiology to normal. During this time the patient would not be regarded as taking treatment *for tuberculosis* at all. For this reason there would be *comparatively* little time expended, in most instances, in returning the patient to his pre-illness level of living, at which time he would be reclassifiable as "apparently inactive". Others may qualify in every other way for an apparently inactive status but may be unable to return fully to their pre-illness level of living. The latter would be regarded as partially disabled, but nevertheless "apparently inactive" (See March 1955 issue, Virginia Medical Monthly).

The period between the time specific treatment for sub-clinical tuberculosis is discontinued altogether, and the time when the patient has been completely restored to his pre-illness or prescribed post-illness level of living is the *only* period in tuberculosis where the patient can *properly* be described as "convalescing", and even here he is recuperating primarily from the enervating effects (when significant) of *treatment* taken during the sub-clinical phase.

The all too common practice of referring to a patient as "convalescing", *i.e.*, recuperating from the *effects* of tuberculosis, at the same time he is taking treatment *for* tuberculosis, understandably has been and is a source of *grave* confusion to many patients, reflected in flagging interest and cooperation during the final crucial months of "cure-taking".

Needless to say, for it is a matter of common knowledge, not all cases of pulmonary tuberculosis are or have been treated along the lines suggested. In many, the concept of sub-clinical tuberculosis is either ignored or inadequately appraised, with treatment inappropriately quantitated. Even in the absence of criteria, rest regimes are often liberalized progressively during the post-clinical period—under the guise of "exercise tests". If the patient passes each test he will be restored to normal living sooner. If he doesn't pass—well, it's tough to have a disease in which "relapse" is accepted by many as a "chief characteristic".

One sometimes wonders how long it would take for established fires to be classified as "chronic recurring phenomena"—if firemen tried to put them out the way many people have tried to cure tuberculosis. The trained fireman knows that after the last visible flame (clinically tangible disease) has disappeared there is "smouldering" to deal with—which can't be seen—but which he knows is there *because he knows fires!* He is painstakingly unstinting (wasteful—to the bystander) of water during this crucial period—for he does not want to come back later to put the fire out all over again. The analogy is not inapropos.

The Factor of Drug Therapy

Extensive research is under way to evaluate drug therapy in tuberculosis. To date most authorities assign an auxillary role to these important treatment

aids. They are not bacterio*cidal* or otherwise completely curative of themselves, so basic treatment by systemic rest in quantity sufficient must still be prescribed and taken to assure success.

It is true, in some instances, the *amount* of systemic rest required may be but 5% of what might have been needed without drugs, whereupon the patient is tempted to be satisfied with 3%. For every case years ago who could "control" his disease for variable periods because of an above average natural resistance, there are hundreds today with average or below average resistance who can "control" their disease for as yet undetermined periods virtually by the use of drugs alone, with or without surgery.

Just as people, even with curable disease, characteristically *tire* of taking treatment in terms of even slight restrictions imposed upon normal live patterns over prolonged periods—people can be depended upon to *tire* of taking drugs for "control" after variable periods of reasonably normal living.

It must be clear that tuberculosis cannot be eradicated as a serious public health problem by unscientific, not to say "indiscriminate" use of anti-tuberculosis drugs (and surgery). On the contrary, frightening potential reservoirs of highly resistant organisms could be built up—to wreck eventual havoc upon their hosts and upon their contacts.

The Virginia State Health Department does not believe such a catastrophe will occur, because it is convinced that physicians generally can be encouraged successfully to *treat tuberculosis*—not just dispense drugs for relief of clinical disease—and that patients will willingly accept prescribed treatment when they understand.

Earlier suggestions (above) for treatment of subclinical tuberculosis did not specifically take into account the possible concurrent use of drug therapy or reversible collapse therapy—on the theory that to treat tuberculosis effectively with modern treatment aids one must first know how to treat the disease successfully *without* the latter-day adjuvants.

It is generally felt by the Virginia State Health Department that as a rule of thumb, systemic rest for sub-clinically active tuebrculosis, should be continued well past the discontination of drug therapy. This would apply as well to reversible collapse.

Naturally when drugs are administered with apparent effect during the clinical phase of disease, their influence will be reflected in a shortening of the clinical course, which latter, in turn, is one of the three major factors suggested for estimating total length of time of the ensuing sub-clinical phase—in terms of application of systemic rest. It is further suggested that the influence of drugs in determining the duration of the sub-clinical phase be limited to this. The same could be said for all other forms of collateral therapy.

By utilization of the *relatively* simple formula described, for discontinuation of treatment *without* drugs, the *totally* bewildering question as to when drug therapy should be discontinued without reference to such a formula is dispelled.

However, the last word has not been written on drug therapy in tuberculosis—new drugs are constantly being discovered—and only time will establish the ultimate role of this form of treatment.

More Readers for "Today's Health"

Hats off to woman's auxiliaries coming up with fresh ideas for bringing "Today's Health" magazine to more and more readers. Two auxiliary projects recently were brought to AMA's attention. At the suggestion of the Sevier-Polk counties auxiliary, the Arkansas Medical Society has placed copies of the magazine in 100 bookmobiles throughout the state. Also prompted by its auxiliary, the Nevada State Medical Association has ordered subscriptions for every secondary school, college and university library in the state.

Mental Health . . . .

JOSEPH E. BARRETT, M.D.
Commissioner, Department Mental Hygiene and Hospitals

After-Care Clinics

In September 1954, Eastern State Hospital strengthened its After-Care Program by setting up Clinics. Such clinics are now in operation in Richmond, Newport News and Norfolk, and a fourth is in the planning stage for Portsmouth.

The need of After-Care for mental patients when they first leave the hospital, and during the early readjustment which follows, was pointed out by Dr. Joseph E. Barrett in his 1943-44 hospital report.

Looking back, we find that over a century ago means were in use in different countries to accomplish this end. The "Guild of Friends of the Infirm in Mind" was an early expression of community responsibility in England. Dr. Jean Pierre Falret provided follow-up care in France through founding the Societe of Patronage when he was studying the periodicity of certain types of mental illness and the Asylum in Eberbach, Germany, followed the same procedure in the early nineteenth century.

Today's method of follow-up was being tried by Lady Almoners in London hospitals as early as 1902 in their effort to assist patients to make satisfactory adjustments on returning to their homes. Other means of follow-up have developed in this country. Always, however, we find the social worker employed as observer, accompanied by careful recording of the interpersonal and social relationships of the patient as they mirror his adjustment to his family and his community and the presentation of these observations to the psychiatrist.

New York State's eighteen mental hospitals operate thirty six After-Care Clinics for the rehabilitation of convalescents or discharged patients and thirty three others serve as After-Care and Community Clinics. In New Jersey an experimental After-Care program was set up in the early forties. In 1948, three After-Care Clinics were opened by the Trenton State Hospital under the direction of the Clinical Director. These clinics were staffed by trained psychiatric social workers with psychiatrists available for consultation. They proved so successful that the program was expanded to cover the entire outpatient population of that hospital.

The chief emphasis has been placed upon exploring the needs of the patient and helping him to work out suitable orientation plans in the light of these needs. Emotional, interpersonal and environmental factors must be recognized by the psychiatric social worker as she contributes to the understanding of the patient's problems and his life situations.

At Eastern State Hospital the after-care program is carried out in the following manner:

During the initial interview the social worker establishes a relationship with the family which encourages its members to maintain a positive attitude toward the patient during his treatment period in the hospital. This relationship helps the family to accept the patient's hospitalization with understanding. As the patient's condition improves and a trial visit is contemplated, his psychiatrist refers the case to the Social Service Department whose responsibility it is to assist him in planning to leave the hospital. Future plans for the patient are formulated in conferences between the patient, his family, the social worker and the psychiatrist. When the need for additional help is indicated, Vocational Rehabilitation and others are invited to participate in these conferences. The patient's first clinic appointment should be made while he is still in the hospital preparing for furlough. During his pre-release interviews the clinic's purpose is explained to him and to his relatives.

After-Care Clinics can be set up under one of three plans of operation:

1. The Clinic may serve as an observation or reporting center.

2. In addition to reporting to the psychiatrist, the social worker may assist the patient further by supportive therapy in helping him rebuild his interpersonal relationships and in modifying the environmental factors as the need is indicated.

3. Following the above, treatment may be provided in the person of an attending psychiatrist.

Article prepared by MRS. KATHRYN R. GERMANY, *Director, Social Service Department, Eastern State Hospital, Williamsburg.*

Experience has proven that the interest and help offered in the After-Care Clinics constitute a positive factor in the patient's continued progress as he returns to the community. It is generally recognized that, in many cases, relatives may need help in understanding, accepting and in changing certain attitudes toward the patient. When the patient, his relatives and the social worker, under the direction of the consultant psychiatrist work in harmony, much progress can be achieved. Frequently the social worker finds it advisable to contact and enlist the help of other community resources in behalf of the patient. This collaboration in working with the patient proves of value for all concerned.

As a result, members of the community are gradually losing their fear and rejection of those who have been mentally ill. Eastern State Hospital visualizes a program of After-Care for every patient during his furlough period. In order to achieve this the Psychiatric and Social Service Staffs must be adequate to keep pace with the new and constructive trends in caring for those we aim to serve.

SUMMARY

1. The After-Care Clinics of Eastern State Hospital are being organized primarily to help the patient and his family with any problems that may arise following release from the hospital.

2. This method of After-Care conserves the social worker's time and transportation costs and permits her to serve a larger number of patients and their families. When indicated, visits to the home may be made. However, it is believed that the act of coming to the Clinic center is, in itself, of therapeutic value to the patient.

3. This kind of supervision enables the Medical Staff to release patients at an earlier period in their convalescence and so conserves hospital beds for the use of the more acutely ill patients.

Helps Diagnose Measles.

A simple laboratory test has been found helpful in diagnosing measles before the tell-tale rash appears. Drs. Victor Tompkins and John C. Macaulay, Albany, N. Y., of the New York state health department and Albany Medical College, described the test in the February 26th Journal of the American Medical Association.

They found that patients in the stage of measles before rash appears develop an unusual type of cell in the membranes of the nose and throat. Samples of such cells were found regularly in 10 patients from five days before rash to the day it appeared. The method of taking a cell sample and examining it is simple. While the test has not been used enough to tell whether it will be reliable, their own experience has been "so encouraging" that they recommend it for other physicians.

AMA Announces '55 Radio Health Shows

Doctors of America again will plug better health on the air waves as the AMA's Bureau of Health Education announces its 1955 radio transcription plans. Three new program series will be developed for use of state and county medical societies over local radio stations.

With the cooperation of the Rocky Mountain Radio Council, AMA will make available about April 15 a special series of 13 medical "whodunits" entitled, "Dr. Tim Detective." This series tells the story of two youngsters who help the doctor solve interesting and mysterious medical cases. For example, one involves a criminal who betrays himself because of what he does not know about diabetes.

Another series to be released about June 15 will be based on AMA's week-day Chicago television program, "The Doctor Answers." Tapes will be made of 13 of these shows in which Elizabeth Hart (WBKB-TV women's commentator) asks pertinent health questions of Bureau staff doctors W. W. Bauer (director) and W. W. Bolton.

The final series—dealing with new developments in various medical specialties—will be completed about Sept. 15. Top-flight authorities in such fields as geriatrics, mental health, cancer, polio, arthritis and obstetrics will be featured.

Further details will be announced later.

Woman's Auxiliary . . . .

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Publication Chairman Mrs. Wm. S. Grizzard, Petersburg

Richmond.

February has been a busy month for the Richmond Auxiliary. On the 12th, honoring Doctors' Day, a dinner dance was held at the Commonwealth Club for members of the Academy of Medicine and their wives. It was a lovely party with the largest attendance on record. Valentine decorations were very attractive. Mrs. A. A. Houser, Jr., was general chairman, with Mrs. John Williams Powell, chairman of reservations.

The February meeting was held on the 18th, with Mrs. Thomas S. Chalkley as chairman of the day. Mr. Harold Prather, administrator of the Richmond Memorial Hospital, now under construction, told of the new and modern features the hospital will have and also of the problems facing its operation. Luncheon chairman was Mrs. James F. Blades and attractive George Washington decorations were arranged by Mrs. Leroy Smith.

Our members are very elated over the results of the tea at the Valentine Museum on February 25th. Each year we have a fund raising stunt for the benefit of Sheltering Arms Hospital. Tickets for the tea were sold for $1.00 and a mink stole was given as a door prize. The tea proved highly successful and Sheltering Arms is over $1800.00 richer. Mrs. Gilman Tyler was general chairman and Mrs. George H. Snead, ticket chairman.

Anne R. Snead
(Mrs. George H. Snead)

Wise.

This auxiliary met at the Colonial Hotel in Wise on February 9th, with Mrs. W. B. Barton, president, presiding. Annual reports of chairmen of the various committees was given. Volunteers signed up for the monthly session of the orthopedic clinic at the Health Center.

A discussion on a project of establishing a medical library was held. Medical books and journals would be provided on loan or as a gift by the doctors of the county, and members of the auxiliary would help in the Library.

Mrs. C. H. Henderson, Norton, was elected as the new president.

I. V. Bene
(Mrs. E. Bene)

Arlington.

The Arlington Auxiliary sponsored a Fashion Show Luncheon for the benefit of the Arlington Hospital on March 8th at the Washington Golf and Country Club. Fashions were presented by Lady Hamilton, Incorporated, of Arlington. Door prizes were donated by the county society, the auxiliary and individual members. Music was furnished by the "Musettes" of the Ashton Heights Woman's Club, who donated their check to the hospital.

All proceeds were applied to complete payment of the Doctor's Call Board donated to the hospital by the Auxiliary.

Mrs. Albert J. Orlosky was chairman of the event with Mrs. Henry L. Bastien as co-chairman. Mrs. L. G. Gant and Mrs. R. V. Mitchell also served on the committee.

To celebrate Doctor's Day, the auxiliary is planning a Covered Dish Supper for Sunday evening, April 3rd, at the Lyon Village Community House in Arlington. Mrs. T. A. McGavin is chairman of this committee.

The following members attended the Mid-Winter Board Meeting of the State Auxiliary, held in Richmond in March: Mrs. A. R. DiSario, President; Mrs. M. W. Glover, President-Elect of the State Auxiliary; Mrs. K. C. Latven, President-Elect of the local auxiliary; and Mrs. L. B. Martin, chairman of Research and Romance of Medicine for the state.

New addition to Arlington families are: Dr. and Mrs. Lloyd B. Burk, Jr., a girl—Sarah Jane—total 4 girls, 1 boy; Dr. and Mrs. Edmund P. Naccash, a boy—Edmund Peter, Jr.—total 2 girls, 1 boy; Dr. and Mrs. Louis Z. Fauteux, Jr., a girl—Jeannemarie—total 2 boys, 1 girl; Dr. and Mrs. Dan Feriozi, a girl—Kendall Seay—total 1 boy, 2 girls; Dr. and Mrs. C. J. Weimer, a girl—Anita Terese—total 1 girl, 3 boys; Dr. and Mrs. Archibald MacPherson,

a boy—Roderick Allen—total 5 girls, 2 boys, and Dr. and Mrs. Gerald J. Fisher, a girl—Claire Louise—total 4 girl, 4 boy.

HELEN H. WATER
(MRS. JAMES C. WATER)

Petersburg.

The regular monthly meeting of the Petersburg Auxiliary was held at the Petersburg General Hospital on February 22nd. Mrs. Joseph H. McCormick, president, presided.

Mrs. Arthur E. Harvey, executive secretary of the Petersburg Tuberculosis Association, told of various treatments for tuberculosis and explained some phases of handling and financing these patients in Petersburg and Virginia.

The auxiliary-sponsored dinner dance was held at the Petersburg Country Club on February 26th. This affair was most successful and netted the auxiliary $643.00. This money is to be added to the fund for Future Nurses. Each year a deserving high school graduate will receive a $200.00 a year scholarship.

DOROTHY UZZMAN
(MRS. JOHN UZZMANN)

State Health Week.

Shelley Markham, Richmond student, works on a poster for State Health Week, which was March 21-27. Governor Thomas B. Stanley and Mrs. Maynard R. Emlaw, President of the State Auxiliary, look on. Photograph is courtesy of The Richmond Times Dispatch and the Richmond News Leader.

Krebiozen.

Defense of the underdog is so esteemed by Americans that it runs the risk of becoming dogmatic governing all cases, regardless of merit.

Krebiozen may be a case in point. Its introduction to the public was launched on the premise that it would never be fairly received or tested. Ignoring the customary methods of quietly conducting clinical trials, the originators of this proposed cancer treatment persuaded a distingished scientist to go along with them in a widely-publicized and ballyhooed debut in the form of a hotel-ballroom Sales Promotion stunt and an expensive-appearing brochure with others to follow.

This was not the manner in which reliable and authentic compounds are given to the public to fight disease. Such wonderful drugs as the sulfa compounds, the antibiotics, the hormones, were quietly tried on thousands of cases before the public was informed of their usefulness as therapeutic agents.

Even so had Krebiozen been a worthwhile treatment for cancer by now its efficacy would be well known. It has been available to doctors for several years. It has had a series of tests, reported on by the American Medical Association and by a committee of the National Research Council and declared to be without merit as a therapeutic treatment for cancer.

DR. CHARLES S. CAMERON
Medical and Scientific Director
American Cancer Society, Inc.

President's Message . . . .

The University of Virginia Hospital

THE central portion of this great state institution was built more than fifty years ago. The wooden beams in its walls are well seasoned for flames, and its floors have absorbed the dirt and odors of age. Its wards have been overcrowded for years and patients have been placed in beds along its corridors. The more modern sections of the hospital have been built in piecemeal fashion as relatively small amounts of money could be collected from state funds and private philanthropy. Its kitchens are scattered in various wings, its expense of upkeep is high, its operation is necessarily inefficient. The excellent care of sick people is its greatest asset.

These facts have been placed before the last four sessions of the General Assembly. At first the surplus funds were considered untouchable. Then Governor Battle's influence diverted all available funds to public school construction. Finally the last Legislature, recognizing the deplorable state of the hospital, appropriated a sufficient sum to prepare plans for a building which it obviously expected to finance at its next session. This was expected to save time. A hospital is a complex building, its planning is difficult, it takes time to iron out difficulties and to arrive at satisfactory results.

There has been a friendly rivalry between our two medical schools and definite competition for state funds, yet at the last Legislature the President of the Medical College of Virginia testified that the reconstruction of the University of Virginia Hospital was the first medical need of the state.

The Legislature meets again in about nine months; these plans cannot be prepared in that time and estimates of the cost determined. It was clearly the purpose of the last Assembly, in appropriating $225,000.00, to have complete information so that it could act in its best judgment upon it. It is hard to understand why our chief executive has held these funds for nine months and still keeps them impounded.

This hospital is a state institution and not a University project, it should not be linked with a physics laboratory or a student union building, it involves the health and welfare of many citizens from all parts of the Commonwealth, and the members of The Medical Society of Virginia might well express to the Governor their desire to expedite this necessary improvement.

Carrington Williams

President

Editorial . . . .

Measuring the Tuberculosis Situation

THE rapidly declining rate of deaths caused by tuberculosis is evidence of the effectiveness of the public health campaign against this disease. For many years the number of new cases discovered (the incidence) increased in spite of the declining death rate. This has been attributed to the increased tempo of case finding. In public health parlance, the prevalence of a disease, as distinguished from the incidence, refers to the total number of cases known to exist on a given date. It is a cumulative figure. Authorities now express the opinion that the incidence of tuberculosis is declining but that the prevalence is still increasing. This, if true, is of great importance in planning the future public health program for control of tuberculosis. That advanced cases are saved, and that minimal cases are more quickly arrested, is a tribute to medical progress. Tuberculosis is, however, a chronic disease and one subject to relapses. If a greater number of cases exist, more care must be exercised to watch these patients and the problem of examining contacts is proportionately greater.

The communicability of tuberculosis qualifies it as a legitimate target for the traditional public health approach. Governmental funds spent for its control result in pyramiding returns. It is important that the momentum of the fight be continued until the prevalence of tuberculosis, as well as the death rate and incidence, has been substantially diminished.

The State Health Department should be commended for its foresight in making a current survey of existing cases of tuberculosis. This survey, due for completion this month, should aid the department in planning its field program and in determining the need for sanatorium beds. Other factors will, of course, also effect this need. The advice of clinicians must be sought in estimating the influence of improved treatment in decreasing the length of sanatorium stay and in estimating the potentialities of home care.

F. S. W.

Health Insurance, A Joint Endeavor

HEALTH insurance and the prepayment plans have been endorsed by the medical profession as a method by which the public can meet the rising cost of medical care. The number of persons with such coverage has increased rapidly. It is natural that difficulties should arise in as complicated an affair as this.

Some of the hazards insured against are insurable and some are not. To be insurable the contingency insured against should be undesirable, and its occurrence beyond the control of the person insured. Certain aspects of medical care meet these requirements. Usual care for unanticipated disease, or accidents may be readily paid for by insurance. Maternity care, routine dental work, periodic examinations or immunizations do not meet the requirements and to use the insurance mechanism to pay for these services tends to increase the total cost of medical care. Difficulties, also,

become apparent when the existence of insurance increases unduly the use of medical service or increases the charge for medical care. The fact that the prepayment idea has worked as well as it has is a great tribute to the cooperation rendered by the medical profession, as this group, more than any other, calls the signals.

The groups concerned have shown recently additional evidence of their desire to meet responsibilities in this field. The American Medical Association has had its Council on Medical Service for years, but in 1955 appointed a thirteen-man commission to study health insurance plans. The American Hospital Association gave large support to the Commission for the Study of Hospital Care. The report of the commission is now being published in five volumes, and makes lengthy references to health insurance. The insurance industry has had its Health Insurance Council for some time but during 1955 established a Joint Committee on Accident and Health Insurance for the purpose of studying and improving its product and is now operating through an elaborate set-up of task forces and sub-committees.

The National Association of Insurance Commissioners, which represent the governmental supervision of the insurance industry at the state level, has its committee on health insurance and on Blue Cross and Blue Shield plans. The State Insurance Departments have the duty of adequately representing the public.

On the federal level the Federal Communications Commission, during 1955, investigated the advertising of health insurance companies. The present administration is again presenting its plan of supporting health insurance through a reinsurance mechanism.

No attempt is made here to evaluate the effectiveness of these different endeavors, nor is any attempt to make suggestions except that there be consultations at the planning level rather than at the grievance or mediation stage. Cooperative efforts should result in a public service that is reasonable even though limited in scope. It is possible that the State Insurance Department could use advice from The Medical Society of Virginia. The administration in Washington sought freely the advice of the American Medical Association in establishing its health program. The primary supervision of health insurance is still vested in the State Government. It might be appropriate for The Medical Society of Virginia to take the initiative in offering aid.

F.S.W.

Society Proceedings . . . .

Virginia Pediatric Society.

At the annual meeting of this Society, held at Williamsburg, March 4-5, Dr. F. Read Hopkins, Lynchburg, was elected president, succeeding Dr. T. J. Humphries, Roanoke. Other officers are: vice-president, Dr. Thomas Chalkley, Richmond; and secretary-treasurer, Dr. Armistead P. Booker, Charlottesville (re-elected).

Virginia Association of Mental Health.

Dr. W. T. Thompson, Jr., Richmond, has been elected president of this Association. Dr. Rex Blankinship is a vice-president and Dr. Weir M. Tucker a member of the Board of Directors. They are also from Richmond.

Tri-State Medical Association.

Approximately 200 physicians attended the annual meeting of the Tri-State Medical Association at the Hotel Chamberlin, Old Point Comfort, February 21-22. Dr. Paul D. Camp, Richmond, succeeded Dr. Fred E. Kredel, Charleston, S. C., to the presidency. Other officers are Dr. R. B. McKnight, Charlotte, N. C., president-elect; Drs. W. P. Jordan, Richmond, W. C. Davidson, Durham, N. C., and I. R. Wilson, Charleston, S. C., vice-presidents; Drs. James L. Hamner, Mannboro, W. H. Pott, Greenville, N. C., and Dr. George R. Bunch, Columbia, S. C., state councilors. Charlotte, N. C., was selected as the 1956 place of meeting.

South Atlantic Association of Obstetricians and Gynecologists.

At the meeting of this Association, held in Williamsburg, February 10-12, the following officers were elected: President, Dr. Waverly R. Payne, Newport News; president-elect, Dr. John C. Burwell, Jr., Greensboro, N. C.; vice-president, Dr. Charles J. Collins, Orlando, Fla.; secretary-treasurer, Dr. C. Hampton Mauzy, Winston-Salem, N. C.; and assistant secretary-treasurer, Dr. W. Norman Thornton, Charlottesville.

The next meeting of the Association is to be held at the Hollywood Beach Hotel, Hollywood, Fla., January 28 through February 1, 1956.

News . . . .

Calendar of Coming Events

EASTERN STATES EDUCATION CONFERENCES—New York Academy of Medicine, New York City, April 21-22.

INDUSTRIAL HEALTH CONFERENCE—Memorial Auditorium, Buffalo, New York, April 25-29.

SOUTHERN REGION OF AMERICAN COLLEGE OF GASTROENTEROLOGY—Memphis, Tennessee, Hotel Peabody, April 24.

VIRGINIA SOCIETY OF OPHTHALMOLOGY & OTOLARYNGOLOGY—Natural Bridge, Virginia, May 6-7.

VIRGINIA ACADEMY OF GENERAL PRACTICE—Hotel Chamberlin, Old Point, Virginia, May 14-15.

AMERICAN COLLEGE OF CHEST PHYSICIANS—Ambassador Hotel, Atlantic City, New Jersey, June 1-5.

NEUROPSYCHIATRIC SOCIETY OF VIRGINIA—Radford, Virginia, June 22.

Dr. Carrington Williams, Sr.,

Has been appointed interim professor of surgery and chairman of the department of surgery of the Medical College of Virginia. He is to serve on a part-time basis until a successor to the late Dr. Isaac A. Bigger has been chosen.

West Virginia Academy of General Practice.

A scientific program of much more than passing interest is scheduled by the Academy for Charleston, W. Va., on the weekend of April 16 and 17. Physicians in nearby states are cordially invited to attend. Dr. Louis E. Bauer heads the list of speakers and

three deans of major medical schools are to present papers. Each of the other thirteen speakers has attained unquestioned eminence in his field. The meeting schedules a session on pediatrics for Saturday morning, one on medicine that afternoon, one on obstetrics and gynecology Sunday morning and surgery on that afternoon.

Interested physicians should write Dr. Halvard Wanger, Shepherdstown, W. Va., for a more detailed program, etc.

Dr. Walter C. Caudill,

Pearisburg, has announced that he will not seek re-election of the State Senate. He has served in the General Assembly since 1936 and is retiring to devote full time to professional work.

Dr. R. P. Hawkins, Jr.,

Clifton Forge, has been elected president of the Covington-Hot Springs Rotary Club.

Dr. John H. Vaughan,

Richmond, has been elected to membership in the American Academy of Allergy.

Dr. Griffith Honored.

Dr. R. S. Griffith, Waynesboro, was honored by the Masons of Virginia with the presentation of a 60-year pin for his long service in the organization.

Dr. William R. Weisiger,

Richmond, has been elected eminent commander of the Richmond Commandery of Knights of Templars.

Dr. Donald S. Daniel,

Richmond, was elected president of the Southeastern Surgical Congress at its annual meeting in Atlanta in February.

Dr. Berkeley H. Martin, Jr.,

Richmond, is now serving a residency in Ophthalmology at the Episcopal Hospital, Washington, D. C. He is marking his home in Arlington Village, Arlington.

Two Clinical Studies

Which the Clinical Center, Bethesda, Md., desires especially to bring to the attention of physicians generally during the late Winter and early Spring months are listed herewith. Physicians having patients whom they may wish to refer for research study and treatment should write or phone the designated investigator to ascertain whether a particular patient meets the diagnostic and other criteria. If accepted, patients must provide their own transportation to and from Bethesda.

Chemotherapy of Cancer. The National Cancer Institute is planning an expanded program of chemotherapy research in solid tumors. These studies require patients with a proved histologic diagnosis of cancer of any type who have measurable pulmonary, bone or skin metastases, or any combination of these three. In addition, a small miscellaneous group will be incorporated to include patients with easily palpable masses.

Another aspect of the chemotherapy programs is concerned with evaluation of new drugs in the treatment of acute and chronic leukemias. Both adults and children of any age group are acceptable for admission to this study. (Principal Investigator, John Tuohy, M. D.)

Malignant Carcinoid. Every appropriate clinical and laboratory research technique will be used on this National Heart Institute study of a condition which hitherto has been considered very rare. (Principal Investigator, Albert Sjoordsma, M.D.)

A pamphlet outlining admission procedures plus brief descriptions with diagnostic requirements on the nearly 100 separate clinical investigations being undertaken will be furnished any physician on request. Address D. W. Patrick, M. D., Director, The Clinical Center, National Institutes of Health, U.S. Public Health Service, Bethesda 14, Md.

Dr. John B. Birch.

Following the usual three-month period of orientation in one of the City-County training centers of the State Health Department, Dr. Birch will assume duty as Health Director of the Smyth-Washington-Bristol Health District on April 1st.

Dr. William P. McGuire,

Winchester, has been named by Governor Stanley as a member of the Virginia Advisory Hospital Council. Dr. Frank B. Stafford, Charlottesville, was reappointed as a member of the Council.

Dr. T. E. Patterson,

Ransons, has been appointed as a member of the Buckingham County School Trustee Electoral Board.

Dr. M. Josiah Hoover,

Richmond, has been appointed professor and chairman of the Orthopedic Department of the Medical College of Virginia to fill the vacancy caused by the death of Dr. H. Page Mauck. He is a graduate of the College and has been serving as associate professor of orthopedics.

Portrait of Dr. Fisher.

A portrait of the late Dr. John Bowler Fisher, Midlothian, was recently presented to the Chesterfield County Circuit Court.

Northern Virginia Clinical Assembly.

The Sixth Annual Northern Virginia Clinical Assembly, sponsored by the Alexandria Medical Society, will be held on Sunday May 1, at the Magnolia Room, Hunting Towers, Alexandria. The scientific program will be presented by the faculty of the Medical College of Virginia. For a nominal registration fee all physicians are cordially invited to the scientific program, noon luncheon, and evening cocktail party. Physicians' wives and other guests are invited.

For information contact Dr. Ashby T. Richards, 706 Duke Street, Alexandria.

Physicians Needed.

Eight civilian doctors are needed at the Norfolk Naval Shipyard on a full time basis. There is one vacancy for a physician qualified in industrial or occupational medicine. This applicant must have had two years of progressively responsible professional experience in the field of occupational health and medicine. The other vacancies are under two ratings, one requiring only the completion of an internship and the other at least one year in the field of medicine. All positions are under civil service.

Any physician who may be interested in this work should get in touch with H. G. Beck, M.D., Captain, USN., Senior Medical Officer, Norfolk Naval Shipyard, Portsmouth, Virginia.

Vacancies at Fort Lee.

There are two vacancies for Medical Officers, Internal Medicine, at Fort Lee, Virginia. Qualifications are two years of progressively responsible professional experience in the field of medicine for which application is being made. An internship or residency may not be included in this two years.

Further information may be obtained from Mabel Hatchett, E. U. Representative, Headquarters, Quartermaster Training Command, Fort Lee, Virginia.

Staff Physician Wanted.

The Health Division of the Oak Ridge National Laboratory, Oak Ridge, Tennessee, is looking for a young staff physician. This position offers an excellent opportunity for experience and advancement in the occupational medicine field. The minimum beginning salary is $760 per month and may be increased depending upon qualifications and training. Expence paid interview trip can be arranged. For further information, write Dr. T. A. Lincoln at the Laboratory.

Wanted.

An E.E.N.T. specialist and a roentgenologist for part time work in clinic located near Richmond. Write #45, c/o Virginia Medical Monthly, P. O. Box 5085, Richmond 20, Virginia. (*Adv.*)

Wanted.

Young, ambitious, energetic general practitioner to be associated with a Clinic Group in Southwest Virginia. Write #50, c/o Virginia Medical Monthly, P. O. Box 5085, Richmond 20, Virginia. (*Adv.*)

Obituaries . . . .

Dr. Walter Stefan Schiff,

Beloved physician of Marion, died January 31st, following a heart attack. He was fifty-eight years of age and a native of Goettingen, Germany. Dr. Schiff served with the German forces in World War I. He was decorated with the Iron Cross, first class, the highest award a German soldier can receive. Following this he began his medical education and established a practice in Braunschweig where he remained until he fled the terrors of the Nazi regime. Dr. Schiff came to Marion in 1940 and was connected with the Lee Memorial Hospital. He was president of the Smyth County Medical Society and an active member of the Rotary Club. He had been a member of The Medical Society of Virginia since 1942.

Numbers of tributes were paid Dr. Schiff in the papers of Southwestern Virginia by members of his profession and laymen. The Roanoke World-News in an editorial stated: "He was never chosen Doctor of the Year or handed any unusual honor. But he did have the gratitude and regard of the people in his adopted community. Three thousand miles from his native land he found the thing which he sought. He taught them what it means to love freedom."

His wife and a son survive him.

Dr. Henry Webster Patton,

Prominent physician of Hartwood, died February 6th, following several years of ill health. He was seventy-eight years of age and a graduate of the Medical College of Virginia in 1901. Dr. Patton had practiced in Stafford County for fifty-three years, having retired in 1952. He served with the Medical Corps in World War I. Dr. Patton had been a

member of The Medical Society of Virginia for forty-six years and was made a Life Member in 1951. His wife and five children survive him.

Dr. David A. Christian, III,

Appomattox, was shot to death while making a midnight emergency call. He was thirty-three years of age and received his medical degree from the University of Virginia in 1947. Dr. Christian had practiced in Appomattox for several years and was "one of the best loved men in town". His wife and three children survive him. His father is Dr. David A. Christian, Jr., also of Appomattox, who had retired because of ill health.

Mr. Max Freydeck,

Pioneer in medical and color photography and official photographer for the Medical College of Virginia for nearly thirty years, died March 5th while vacationing in Florida. He became official photographer for the Medical College of Virginia in 1925 and helped set up the photography department. He retired about ten years ago.

Dr. Bigger

Isaac Alexander Bigger died on January 27, 1955, at the age of 61. The medical profession, the State of Virginia, the Medical College of Virginia, and the Richmond Academy of Medicine has seldom suffered such a loss. His countless friends, patients, house officers, and students were immediately cast into profound sorrow at his untimely passing. Few men are indispensable, nor would they want to be so, yet to a chosen few it is fitting and proper to so classify them. Doctor Bigger was such a man. Brilliant, honest, humble, inspiring, friendly, fatherly, charitable, judicious, careful, earnest, faithful—are some of the many adjectives that fit this man among men.

From the time of his birth in 1893, in a small South Carolina town, to the time of his death, his life had been one of constant leadership and devotion to his high principles and ideals. He rose to the top of his chosen profession by his own diligence and methodical superior ability. The son of a physician, he was introduced to the profession at an early age. When he graduated from the University of Virginia Medical School in 1919, he was chosen to remain there for his surgical training. On the completion of his residency, he remained on the Staff at the University as a surgeon. His qualities of leadership, his devotion to medicine, and his fine christian character were already evident. His future was assured.

At the University he was the roentgenologist as well as Assistant Professor of Surgery. He never lost his ability to see things in x-rays that were not evident to most of us. After a stay of five years on the Virginia staff, he was called to Nashville, where he served as Associate Professor of Surgery under the late Doctor Barney Brooks.

In 1930, when the Medical College of Virginia was looking for a man to head their surgical department, Doctor Bigger was immediately chosen, and he became, at the age of 37, the youngest Professor of Surgery in the country. Few major academic appointments have ever paid such handsome dividends.

When Doctor Bigger came to Richmond, the Medical College of Virginia, though old in years, was in its infancy as far as its recent development was concerned. It has often been said that Doctor Bigger was one of the few who really made that institution and charted its steady course to its present high place. It has also been said that the institution could not recover from the loss of such a man. While it is realized that he could never be replaced, it is because of his work, his prestige, his profound diligence and devotion to his department, his superlative ability as a teacher, surgeon, and trainer of men, that the Medical College of Virginia will go on to even greater heights. He leaves in us a profound sense of personal loss, but we are all pledged in our individual hearts and souls to carry on in his name as he would have wished and encouraged us to do.

Doctor Bigger was one of the chosen few in God's world. Not only was he a surgeon's surgeon, for his technic and skill were truly brilliant, but he was the epitome of all of the factors which compose the true image representing the dignity of man. No greater teacher of surgery ever lived. Countless operations in this country of ours are today being done because "this is the way Doctor Bigger says to do them". He was familiar and intimate with every part of the human body. He was a pioneer in thoracic surgery. He was one of the earliest surgeons to deal successfully with the heart and great vessels. He could invariably change a serious situation into an obvious and simple procedure.

Doctor Bigger was a dedicated man, and few men lived by more personal, christian principles. He never compromised himself or anyone else. He lived as if the Golden Rule was written for him alone. He befriended innumerable people anonymously. He helped many students and nurses both financially and spiritually out of difficult personal problems. The extent of his charity both personal and physical can never be listed, nor would he want it to be. He taught many young surgeons not only technic of operations and the careful performance of them, but he also taught the high ideal of the true practice of medicine. Few of us ever had more devoted patients. One of his colleagues once remarked, "He never took a short cut to anything." Painstaking to a fault, he proceeded to accomplish any task secure in the knowledge that he knew what he was doing, and what he was doing was right.

Doctor Bigger had an uncanny ability in diagnosis. Once he was aware of all of the facts of a given case, he would startle his colleagues with that familiar smile and with a twinkle in his eye and propose a diagnosis that was invariably correct. It was always a comfort to have him around to help his staff with a difficult case. A day hardly passes that we would not like his opinion on some case or problem. As time goes on he will be missed more and more for this and many other reasons.

Dr. Bigger suffered from asthma most of his life. He was deeply hurt when he was rejected for military duty in the last war. He immediately assumed a greater burden at home. His workday began at 8:00 in the morning and ended about 10:00 or 11:00 o'clock that night. It was a familiar sight to see him changing dressings and talking with patients and relatives long after the usual

routine of the hospital had ceased for the day. It is clear now, in retrospect, that this self-denial contributed to his untimely death. Yet Doctor Bigger loved the practice of medicine—he loved his patients—he loved his work—and in return he was loved by everyone.

He was a man of principle and had the capacity for personal loyalty rare among men. The devotion he inspired among his students and colleagues was both of respect and affection. Few committees could function without him. Men loved him for his great humility, were charmed by his genuine shyness.

When in 1950 his former residents gathered to pay him homage for his twenty years of service, and presented his portrait to the Medical College of Virginia, the vast throng so assembled was moved beyond words at his incredulity and by the difficulty with which he stated: "Thank you from the bottom of my heart."

Words are meaningless when one attempts to sum up the life of this man, to enumerate his honors and his achievements, to express how his life influenced that of everyone with whom he came in contact and how deep is our grief and sense of loss. Words, alone, are unnecessary for those of us fortunate to have known him, loved him and respected him. For Doctor Bigger will never completely die. His teachings and his principles will forever be a part of the daily life of all of us, and because of him we will be better physicians, better surgeons and better men. We will forever be indebted to Isaac Alexander Bigger, surgeon, teacher, and friend to man.

Therefore, Be It Solemnly Resolved:

1. That this resolution become a part of the minutes of the Richmond Academy of Medicine;
2. That a copy of this resolution be published in the Virginia Medical Monthly, and
3. That a copy of this resolution be sent to Dr. Bigger's family.

John Truslow
Carrington Williams, Sr.
Herbert C. Lee

Dr. Mauck

In the death of Dr. H. Page Mauck on January 23, 1955, we sustain a heavy loss. The proficiency of his work in orthopedic surgery was outstanding, and with utmost sympathy he spent his life in skilled untiring service to his fellow men.

He was born in Richmond July 28, 1891. His father, John Henry Mauck was a local realtor; his mother Nancy Page Anderson, of an old King and Queen County family. At eighteen he was graduated from John Marshall High School. In the same year, 1909, he entered the Medical College of Virginia, the youngest man in his class. An index to his steadiness of character, admirable diligence and enterprising will, he worked his way through medical school. Living at home, he clerked evenings at a nearby drug store.

He served his internship at the Johnston-Willis Hospital. Commended by Dr. George Ben Johnston, he then got a coveted appointment for further training at Johns Hopkins. There he stayed for several years on the service of Dr. William S. Baer; and there he was the first *non-Hopkins man* appointed to the residency in orthopedic surgery. On his return to Richmond he was for a time associated with the late Dr. William T. Graham.

In 1917, Lieutenant H. P. Mauck, U.S.A.M.C., volunteered with Richmond's "McGuire Unit"; but before Base Hospital 45 debarked for France, he had been transferred to the Surgeon-General's office. With the rank of captain, he was put in charge of orthopedic surgery in the camps of the Southeastern States; he was later assigned to Walter Reed Hospital where he served for ten months. Although due his majority when the war was over, he resigned to resume his independent practice in Richmond.

His success was immediate and constant, justly earned by his conspicuous skill and devotion to his patients. Meanwhile he spent increasing time and energy directing and teaching orthopedics at the Medical College of Virginia, where in 1945 he became Professor of Orthopedic Surgery. From 1928 when the Crippled Children's Hospital was opened here, he was an active charter member of the staff and gave tireless service to its needful work. At the time of his death he was the chief surgeon there. With his associate, Dr. R. D. Butterworth, Dr. Mauck also founded the mobile Tidewater Orthopedic Clinic. Besides his heavy schedule of office work, operating and teaching, he served the lame and crippled people of distant counties through regular visits to these free clinics.

Along with his loyal membership in local, State and Tri-State medical societies, Dr. Mauck was a Fellow of the Southern Surgical Association, the American College of Surgeons, and the American Orthopedic Association, of which distinguished society he was the treasurer. He was also a member of the exclusive and honorary "Robert Jones Club," founded in 1920 and considered the most important "and stimulating" of all orthopedic societies. For each of its original 25 members in the United States no replacement is elected to "the Robert Jones."

Dr. Mauck was a regular contributor to the literature of his surgical specialty.

He was recently appointed to succeed Dr. W. L. Graham on the Virginia State Board of Health. For many years he was a director and chief of the orthopedic service at the Johnston-Willis Hospital, and an elder in the Second Presbyterian Church.

Above all, Doctor Mauck was a true Christian gentleman, a faithful steward of many fine attributes. Through his useful happy life he was generous, peaceable, full of compassion and good will.

He is survived by his wife, who is the former Harriet Hutcheson, a sister of Dr. J. Morrison Hutcheson and of the late Mrs. A. Murat Willis of Richmond. Also by three sons all worthily following him in the medical profession. They are Dr. H. Page Mauck, Jr., assistant resident in medicine at the Medical College of Virginia Hospital; Dr. Robert H. Mauck, an intern at Union Memorial Hospital, Baltimore, and William R. Mauck, a third year student at the Medical College of Virginia.

Though impoverished by his loss, the world is better, far happier because Page Mauck so loved and served it.

Therefore, Be It Resolved that this tribute to his memory be spread upon the minutes of the Richmond Academy of Medicine and a copy be sent to the Virginia Medical Monthly.

Be It Further Resolved that a copy also be sent to his immediate family.

D. D. Talley, Jr.
E. T. Gatewood
F. S. Johns, *Chairman*

Dr. Morton.

How hard it is to write about our friend William Richard (Dick) Morton who died January 30, 1955. Dr. Morton was out making a call on one of his patients around midnight when he was involved in an automobile accident and quite severely injured. We watched and prayerfully waited each day for the latest bulletin and our hopes grew with each passing hour until the fatal hour and the Doctor was no more.

Dr. Morton was born at Oxford, N. C., on July 9, 1903, a son of the late James T. and Frances D. Morton. He was educated at Davidson College and the Medical College of Virginia, from which he was graduated in 1926.

He was a member of the Richmond Academy of Medicine and had served on the board of directors; he had just declined the nomination for president-elect of that body in December, 1954. . . .

Dr. Morton's church and civic activity is shown by his being a steward in his church and a member of the Richmond Chamber of Commerce, Richmond Better Business Bureau and the Barton Heights Citizens' Association.

. . . . . .

Now let us go back to his student days and we read in the 1926 X-Ray, the year book of the Medical College of Virginia, "Here is another from the 'North State'. 'Red' came to us from Oxford, via Davidson College. In spite of his fiery thatch, he is a quiet, unassuming lad who always finds pleasure in serving others and who is ever present whenever any one desires information on the noble art of healing. 'Red' passed through the four-year grind with all ease, and we predict that when he goes back to the waving pines they will welcome him with open arms."

Yes, the fellow student who wrote that short sketch of Dr. Morton had the keen faculty of looking into the future. Those of us who knew him as a student, intern and watched him grow to the full flower of his manhood can vouch for the Doctor who was unassuming, kind and ever ready to go to the help of a patient or professional friend. Yes, he was a friend to all who came his way. His going was expressed most beautifully at his funeral when one of his patients, with tears running down his face, said: "My family has lost a pal." He gave more than his medicine and advice, he gave of himself—truly a physician who carried out the precepts of the Hippocratic Oath, which pledged a doctor "to keep the highest regard for his teacher in the arts and to pass on his medical knowledge to selected individuals" and again to "use treatment to help the sick according to my ability and judgement", "while refraining from unethical practices and maintaining due secrecy; and doing away with suffering of the sick and lessening the violence of the diseases."

Dr. Morton had time and place for only the basic virtues of the medical profession that can be so beautifully summed up in the words of the great Rabbi, physician and philosopher, Maimonides, who died over seven hundred and fifty years ago: "O God ,Thou hast formed the body of man with infinite goodness; Thou has united in him innumerable forces incessantly at work like so many instruments, so as to preserve in its entirety this beautiful house containing his immortal soul, and these forces act with all the order, concord, and harmony imaginable. But if weakness or violent passion disturb this harmony, these forces act against one another, and the body returns to the dust whence it came. Thou sendest then to man Thy messengers, the diseases which announce the approach of danger, and bid him prepare to overcome them. The Eternal Providence has appointed me to watch o'er the life and health of Thy creatures. May the love of my art actuate me at all times, may neither avarice, nor miserliness, nor the thirst for glory or a great reputation engage my mind; for, enemies of truth and philanthropy, they could easily deceive me and make me forgetful of my lofty aim of doing good to Thy children. Endow me with strength of heart and mind, so that both may be ready to serve the rich and the poor, the good and the wicked, friend and enemy, and that I may never see in the patient anything but a fellow creature in pain."

We in the Richmond Academy of Medicine will miss William Richard Morton and his going has left an empty place in our membership; we were the richer for having had him through the years as a friend, counsellor and fellow physician. It is with sad hearts that we say goodby.

Your committee recommends that a copy of this resolution be spread upon the minutes of the Richmond Academy of Medicine as a permanent record of our feelings and that a copy be sent to his family.

Reuben F. Simms, M.D.
Bruce L. Randolph, M.D.
R. C. Siersema, M.D.

Dr. Shelburne

In its regular meeting on February 4, 1955, the Medical Staff of the Martinsville General Hospital passed unanimously the following resolution:

Whereas, we record the death of Dr. James T. Shelburne of Critz and Martinsville, Virginia; and,

Whereas, as a father and husband, Dr. Shelburne was the head of one of the most respected families in his community; and,

Whereas, as physician to Critz and the surrounding community he had earned the love and respect of all; and,

Whereas, in his service to his church and to his patients he was an example and inspiration to all who knew him; and,

Whereas, as a specialist and practitioner, Dr. Shelburne upheld the standards of his profession and was admired and respected by his patients and colleagues alike; and,

Whereas, in his passing, not alone has his family suffered immeasureable loss, but also his colleagues and his community, and this staff;

Therefore, Be It Resolved, that tribute be made and recorded in the official minutes of the Medical Staff of the Martinsville General Hospital;

And Be It Further Resolved, that a copy of this resolution be transmitted to Dr. Shelburne's family as an expression of our sincere sympathy and our heartfelt condolence; and,

Be It Further Resolved, that a copy of this resolution be transmitted to The Medical Society of Virginia and the Martinsville Daily Bulletin.

John R. Clark,
President

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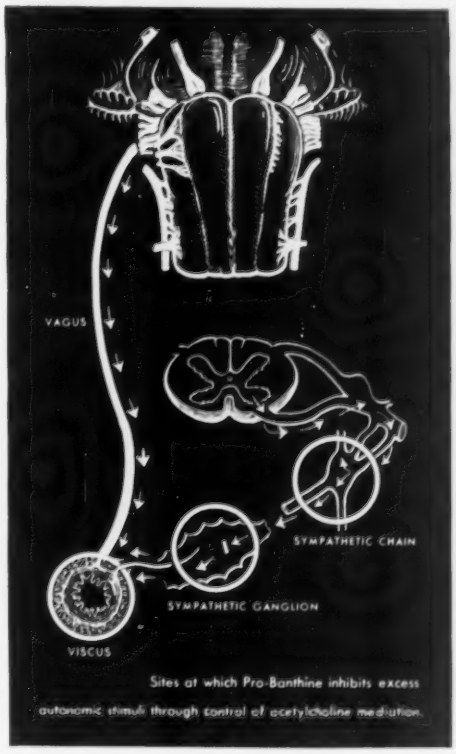

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1. Schwartz I. R.; Lehman, E.; Ostrove, R., and Seibel, J. M.: Gastroenterology 25:416 (Nov.) 1953.
2. Roback, R. A., and Beal, J. M.: Gastroenterology 25:24 (Sept.) 1953.

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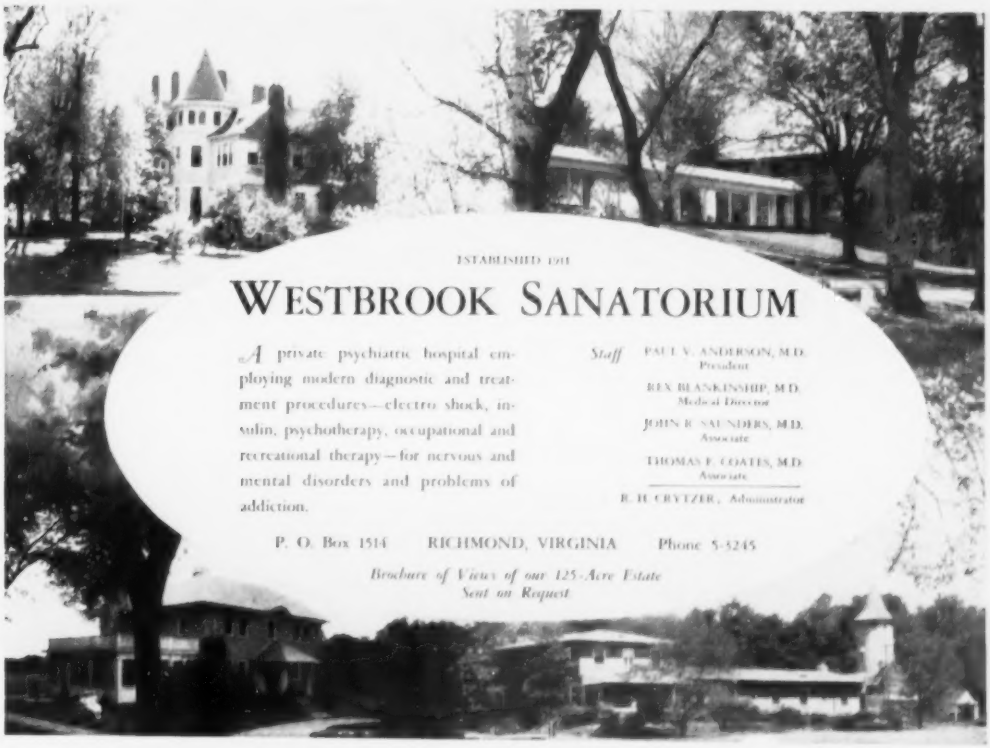

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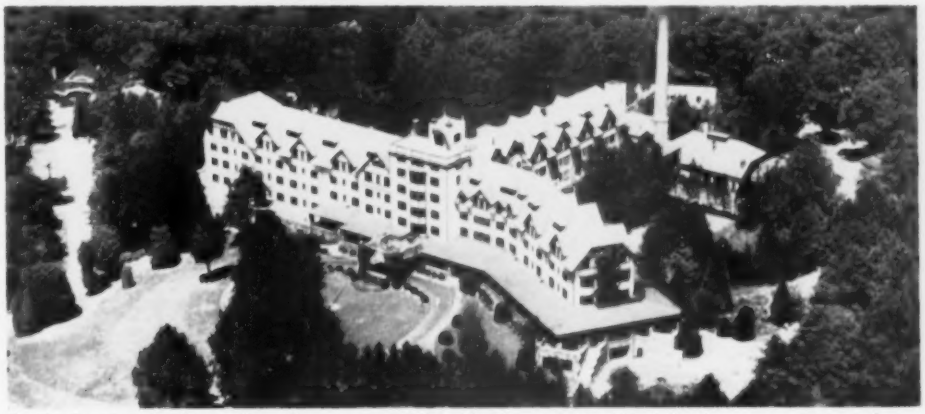

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Bumbalo, T. S., Gustina, F. J., and Oleksiak, R. E.: J. Pediat. 44:386, 1954.

White, R. H. R., and Standen, O. D.: Brit. M. J. 2:755, 1953.

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Brown, H. W.: J. Pediat. 45:419, 1954.

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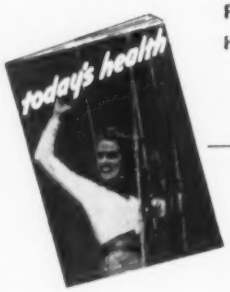

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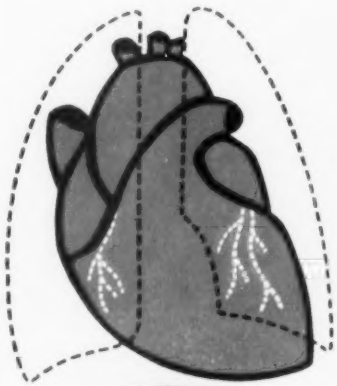

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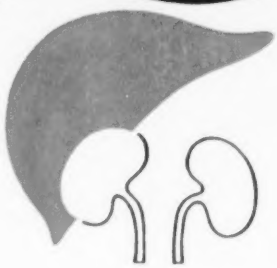

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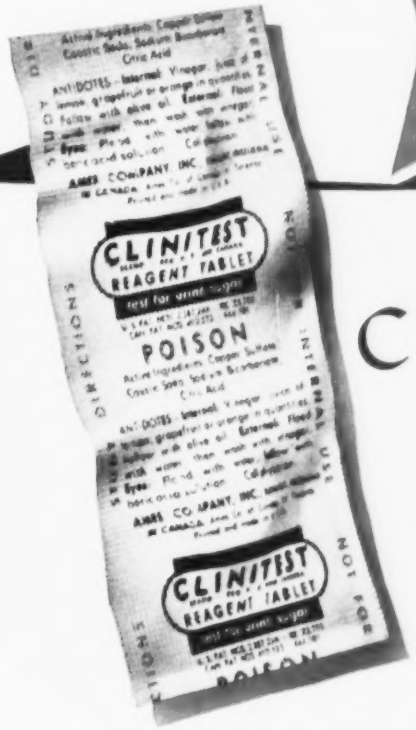

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(1) Butler, A. M., and Wolman, I. J.: Quart. Rev. Pediat. 9: 63, 1954. (2) Moore, I. H.: Journal-Lancet 74: 80, 1954. (3) Collins-Williams, C.: J. Pediat. 45: 337, 1954. (4) Clein, N. W.: Ann. Allergy 9: 195, 1951.

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